THE JOURNAL OF THE
AMERICAN OSTEOPATHIC ASSOCIATION

Vol. XVI. New York, N. Y., May, 1917 No. 9

Gymnastic Treatment of Inguinal Hernia

ANDREW A. GOUR, D. O., Chicago, Ill.

Professor Osteopathic Gymnastics, Chicago College of Osteopathy

THERE are many forms of hernia, but the inguinal type is the most common and amenable to treatment. Other types may be repaired or prevented by building up the abdominal walls, but, in such an article as this, it is impossible to give more than the principle along which treatment is applied. To explain clearly the procedures for inguinal hernia is to present the key to treating other forms such as the umbilical and some of the many traumatic forms.

Before opening the discussion of the etiology, symptoms and treatment it seems worth while to bring in a few points on the origin of the word "rupture," and a few words on the history of the subject under discussion. The term "rupture," so commonly used, is incorrect. Rupture means literally an actual tearing of the peritoneum. In hernia there is seldom a tear, but we find a stretching of the natural openings of the inguinal canal through which the intestines or other tissues protrude. It is interesting to know how the term "rupture" originated.

R. W. Murray, F. R. C. S., in his book on "Hernia, Its Cause and Treatment," says that Galen (A. D. 131-201), whose knowledge of the body was based on monkey anatomy, stated that inguinal hernia was "due to a rupture of the peritoneal process, or to a gradual distention of it. In case of rupture, it was believed that the tear involved the aponeurosis of the abdominal muscles as well as of the peritoneum.

"It is a strong evidence of the master mind of Galen that his anatomical and physiological teaching should have remained unchallenged until Vesalius (1514-1564), after carefully dissecting many human bodies, exposed the numerous errors into which Galen had unavoidably fallen. The awe and reverence for the name of Galen was so great that his statement regarding the rupture of the peritoneum in hernia was generally accepted up to the time of Heller (1708-1777)". The last sentence may do honor to Galen but it rather acts as a boomerang against the profession which claims pre-eminence in the healing art, for, even to this day, they have not succeeded in weaning themselves from dead authorities and theories.

Dr. Murray says, further on: "Though inguinal hernia is a very common complaint, has wide geographical distribution and a very ancient origin—in fact, it is far from improbable that an inguinal hernia first appeared in one of the children or grandchildren of Adam—we are still far from agreed as to its exact causation, and consequently still further from agreement as to the best way of curing it."

I looked carefully through his book and several others on the subject of hernia, and, as Dr. Murray says, there is very little agreement as to the best ways of curing it. From the cruel, quackery ways of the ancient charlatans, to the modern methods of parafin plugs and skilled surgery, one can find a very interesting array of procedures, but no one has yet attempted vaccine or serum therapy for hernia, a wonder to me, in view of the varied uses to which this practice has been put in our day.

A hernia is a gradual stretching of the tissues and escape of the abdominal contents either into a preformed or congenital sac or, as in the common acquired type, by the formation of a sac from the peritoneal lining of the abdomen. Abdominal herniae are named from the part through which they pass, as inguinal, femoral or umbilical. The scrotal or labial herniae are simply the inguinal herniae so developed that the sac and its contents has emerged from the external abdominal ring and entered the scrotum and labia. We may also find a ventral hernia, a protrusion through any part of the anterior abdominal wall except at the umbilicus or above it; the epigastric hernia, a protrusion of peritoneum in the space bounded by the ensiform cartilage, the ribs and the umbilicus; the obturator hernia, a protrusion through the obturator membrane or obturator canal, and felt below the horizontal ramus of the pubes internal to the femoral vessels.

Nature of Different Forms of Hernia

A hernia consists of the sac and its contents. The sac is made up of peritoneum and lining membrane of the abdominal cavity. The sac is divided into the mouth, neck and body. The mouth is the aperture communicating with the abdominal cavity. The body is the expanded portion. The neck is the constricted part at the abdominal opening.

Herniae of the bladder, caecum and sigmoid flexure may occur without a true hernial sac. The anterior wall of the bladder is not covered by peritoneum and may cause actual protrusion in the inguinal hernia. Protrusion of fairly large size will also drag a part of the bladder covered with peritoneum, when both the bladder and abdominal contents are found. The same condition exists in sigmoid and caecal hernia, except that in these the peritoneum covers the anterior wall of the first and the posterior wall is dragged down without this covering.

The contents of the sac are omentum, intestine, or any movable contents of the abdomen. "In some cases," according to De Garmo, "even a kidney or parts of the liver have been found in the hernial sac."

Herniae are divided clinically into the reducible, irreducible, incarcerated, inflamed and strangulated.

In *reducible hernia* the contents can be reduced into the abdominal cavity. The acquired sac is always reducible at first. That is, it is free from adhesions. Sooner or later adhesions are formed and render it permanent. The sac then forms a moist serous lining to the inguinal canal.

Irreducible hernia presents the usual symptoms of hernia, but cannot be replaced in the abdomen. A hernia that has been reducible may in time become irreducible because of adhesions, because of the growth of omentum fat, or because of the increase in size of the mass. It may result in serious complications because of its prominence, which renders it liable to bruise and thus give pain, or there is always danger of obstruction or strangulation. Irreducible hernia usually requires surgery.

Incarcerated or obstructed hernia means a condition in which there is an obstruction caused by the damming up of fecal matter or undigested food. The fecal current is stopped but the blood flow in the intestinal wall is undisturbed. This condition is most likely to take place in irreducible hernia or umbilical hernia, especially if the patient is constipated. As this condition develops the tumor enlarges and becomes tender and painful. The abdomen may become tender and painful. Soothing procedures are necessary until the bowels are emptied, by first giving enemas, and then, castor oil. Surgery is usually necessary to repair this type of hernia.

Inflamed hernia is due to injury of an irreducible hernia. It is a local peritonitis manifesting as a mass that is tender, painful and hot. In inflamed enterocele there is much fluid formed, while in epiplocele the mass becomes hard. There is constipation, vomiting and usually fever. The hernia cannot be reduced, and the mass shows impulses upon coughing. Every means possible should be employed to empty the bowels, using enema to first empty below the hernia, then giving castor oil or salts. Surgery is advisable to prevent strangulation.

Strangulated hernia is a condition in which the blood vessels, whether intestinal or omental, are constricted and blood circulation arrested along with fecal obstruction. Strangulated hernia is dangerous to

life. It usually occurs in patients having old inguinal herniae, who lead an active life. There may occur a slipping out of more intestine or omentum into the intestinal sac and this causes a pressure at the opening or neck of the sac sufficient to check the blood circulation. The patient feels sharp colicky pains in the region of the umbilicus soon after this occurs and he rapidly grows weak. There is much retching and often vomiting. The pain gradually becomes continuous. Later, the hernia becomes irreducible. It is found larger than usual, tender, painful and the skin above it reddened. There is no impulse upon coughing.

This type of hernia usually results in gangrene with danger of death unless surgery is applied. Measures should be taken to reduce the condition. The patient is placed on his back, preferably on an incline plane with the body higher than the head, the knees bent to relax the abdominal muscles as much as possible. By gentle manipulation it is frequently possible to reduce this condition. Then, the abdominal walls can be strengthened. If reduction is impossible, surgery is necessary.

Causes of Hernia. Hernia is most likely to occur in the male. It occurs at any period in life and sometimes hereditary predisposition seems to exist. Sometimes a mass of fat forms in the canal before the hernia appears and it seems to have a causative relation to it. Any strenuous occupation predisposes to hernia. Weak, flabby abdominal muscles predispose to hernia. Muscular relaxation from ill-health, or following pregnancy in women, and wounds or scars following operations, or abscesses may predispose to hernia. The exciting causes are muscular effort, lifting, strains, jumping, sudden effort to guard in falling, etc.

When a hernia is forming the person feels a muscular pain in the lower abdomen, which is intensified on sneezing or coughing. This may be noticed weeks before it is evident that a hernia is present. If a hernia is suspected, careful examination should be made. Insert the tip of the little finger in the external ring and ask the patient to cough. Where hernia is present, succussion will be detected on coughing. In healthy persons no more than the tip of the little finger can be inserted in the external ring. If the tip of the index finger can be inserted the aperture is dilated, and even if there is no hernia present one may be safely prognosed.

Human Hand Best Instrument for Reducing Hernia

Reducing hernia. In reducing a hernia no instrument surpasses the human hand. When a hernia is reducible the contents of the sac can be emptied into the abdominal cavity. But unless the sac can be reduced with the contents out of the inguinal canal into the abdominal cavity, the case is surgical and requires radical treatment. Most cases are curable by exercise before the sac is adhered. After the sac is adhered it requires long continued proper use of the abdominal muscles to produce the desired results. Correct use of any muscle tends to make it normal.

The shape of the sac can be felt in reducible hernia. There is a smooth enlargement at a known hernial opening, larger below than above, which began above and extended downward. It is often possible to feel the neck. In enterocele, that is, where the sac contains portions of the intestine, the enlargement becomes smaller and may disappear altogether on lying down. Straining, lifting, or standing, especially while leaning forward, makes the mass more prominent; cough causes impulse or succussion. The protrusion is elastic and there is a gurgling sound when the mass suddenly disappears on reduction. In epiplocele, that is, where the sac contains omentum, the mass is less elastic. It is often irregular and compressible and feels doughy. There is little impulse on coughing, and muscular effort or standing has little influence on its size. Percussion gives a dull note and reduction is accomplished slowly and no gurgling sound results.

Palliative treatment. The victims of inguinal hernia often complain of pain on exertion, of dyspepsia and often of constipation. It is advisable to eat so as to keep the bowels open, and keep from violent exercises and sudden strains.

The only proper truss is one that does not

bore into the opening from outside. All kinds of methods have been applied to hold the viscus in place, but nearly all have had an oval surface, which bored into the opening and tended to enlarge it. The standard truss, with its oval or sharp surface, forces into the opening and wrestles, as it were, with the mass from within which is trying to get out. The result of this wrestling match is never curative. The truss is usually made strong enough and so adjusted as to overcome the pressure of the internal mass. The result of the force working either way is to keep the aperture open and permanent. No truss with a conical surface ever acted as more than an artificial support. If a cure results, while a standard truss is worn, it is in spite of the truss. The only correct truss or support for any inguinal hernia or traumatic rupture of the abdominal wall is a broad stout band, or a band with a flat pad attached to it that exactly fits over and closes the opening from the outside without boring in. A flat piece of wood about three-eighths of an inch thick, whittled out in an oval shape, lined with silk or chamois and attached to the band will serve properly. Such an appliance will keep the hernia from bulging out, keep the parts normally within the abdomen and give the aperture a chance to close up under exercise.

A Proper Hernial Support

A proper hernial support can be made by fitting a piece of one and one-fourth inch rubber tape around the body, bringing it close to the pubes at the front. Then attach two narrow bands lined with chamois or silk, about one inch apart at the front, pass them between the thighs and attach them at about five or six inches apart at the back. With these bands so adjusted that the broad abdominal part fits over the hernial area, attach the flat pad so that it will press at the internal inguinal opening. (Fig. 1). This appliance should be worn during the day. While exercising or being treated it should be removed.

Treatment. The gymnastic treatment of inguinal hernia was used successfully by Dr. George H. Taylor, of New York City, back in the 70's. The late Dr. J. W. Seaver, of Yale, contributed a very instructive article to the Yale Medical Journal, February, 1900 and 1904, on "The Treatment of Inguinal Hernia in the Young."

In most cases it is advisable to proceed with caution, fitting the exercise to the individual and regulating the force from gentle to strong movements as the patient gains.

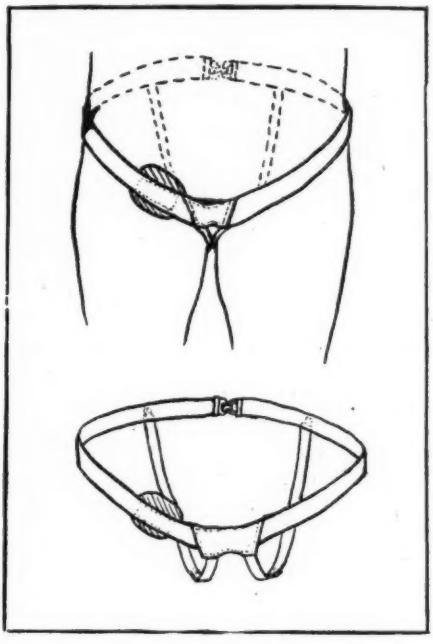

Fig. 1.

Our experience has satisfied us that the best way is to proceed progressively from gentle to strong. Dr. Seaver, whose extended experience enabled him to speak with confidence and authority, allowed even the heaviest gymnastics after the patient had practiced preliminary work for a while.

Dr. Seaver said: "It has been my experience that the patients that are most active and most anxious to take part in athletic work are the ones who repair most rapidly, while men with an aversion to physical activity do not show satisfactory results." Our experience has been such as to corroborate this statement.

The treatment of inguinal hernia is in a sense like the treatment for obesity. When the treatment is once made clear, the fact

that it requires exertion on the patient's part makes it unfavorable. It is necessary to repeat the need for exercise to the patient and to insist upon his practicing it daily. Exercise is the only means of reenforcing the musculature of the abdomen. Braces, corsets, props, trusses and all other supports never have strengthened any one. Besides exercise for local development of the abdominal walls, general muscular exercise is advisable. The work outlined in former numbers of the JOURNAL on home gymnastics should be taken in earnest. Any procedure tending to restore normal, raise the viscera, develop correct carriage, etc., will relieve the pressure upon the abdominal walls and hasten permanent recovery.

Application of Exercises

It is sometimes advisable to allow the patient to rest a few days or weeks before commencing vigorous exercise. During this period, however, the patient's rest should be supplemented by local kneading and vibration, with the proper application of cold water.

In the application of exercises, those are best which particularly tax the oblique fibers of the abdominal muscles. The muscle fibers which form the pillars of the internal and external openings are fibers of the oblique and transversalis muscles. There are three layers of muscle. The inner layer is made up of fibers of the transversalis muscle; the middle layer, of the internal oblique muscle, and the external layer, of the external oblique muscle. The fibers of the external oblique pass downward from the lower six ribs and the tendon is inserted at the anterior third of the crest of the ilium. At the pubic crest, between these two points, the muscle is folded upon itself in a tendinous structure that forms Poupart's ligament. At the lower third of the pubic spine the tendons of the transversalis and internal oblique muscles, as well as those of the external, do not coalesce, but leave an arched opening called the external ring. There is a slit-like opening formed by a separation of the horizontal fibers of the transversalis, through which passes the spermatic cord in the male and the round ligament in the female. The passage from the internal to the external ring through which these structures pass is called the inguinal canal. This canal is formed by the lack of coalescence of the fascia constituting the myolema of the oblique muscles. It is an oblique canal, about an inch and a half in length, directed downward and inward, parallel with, and a little above, Poupart's ligament.

Into this canal, by way of the internal ring opening, may pass any free viscus of suitable size. Once in the canal it may pass downward until it is checked at the superpubic fascia or in the scrotum or vaginal labia. Not infrequently it distends the scrotum and produces a large swelling that hangs down several inches. This form of hernia is known as the indirect or oblique inguinal.

Where the protrusion penetrates some part of the abdominal wall internal to the epigastric artery it is called a direct inguinal, or internal oblique hernia. In this form the protrusion may escape from the abdomen through the fibers of the conjoined tendon, or the tendon is gradually distended in front of it so as to form a complete investment for it.

Without further details about forms and names of herniae, let us review briefly the philosophy and application of the gymnastic treatment. It is safe to make the general statement that very seldom do herniae exist in individuals whose abdominal muscles are strong and kept in good tonic condition. We usually find that herniae exist in individuals whose general muscular systems are flabby and weak. The abdominal muscles, when relaxed, offer but a weak support to the viscera. The fundamental standing position described in the first lesson on home gymnastics, already referred to, explains how these muscles should function. In every case where special exercise is taken to cure hernia general exercise should also be taken. The reason is obvious.

For local effect the best type of abdominal exercises are performed with a lateral twist of the trunk, with the patient lying on the back, or the legs are drawn up from the sides, having first been placed so as to cause a contraction of the oblique fibers. The exercises described are sufficient to cure any case of hernia that is amenable to exercise. They do not include the entire possible va-

riety, but only a selection of the best and most specific. They are all chosen for their local and specific effects, keeping in mind their general effect upon the organism.

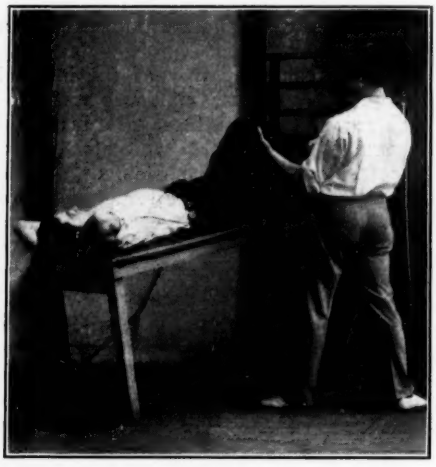

Fig. 2.

In applying treatment it is advisable to proceed according to the following program.

With the patient on his back, feet higher than the head:

(1) Reduce the hernia.

(2) Give the necessary osteopathic procedures.

(3) The patient's knees flexed, to relax the abdominal muscles, give local kneading and vibration; alternately giving kneading a few minutes, then vibration a few seconds. Kneading helps the circulation and blood supply to the part; vibration produces constriction when applied for only a few seconds.

(4) Give the exercises described below. In the beginning give the first five, then add one new one at each succeeding treatment until all can be practiced at one session without tiring the patient. When all have been mastered progress by increasing the number of times each movement is repeated, always stopping short of exhaustion.

(5) After exercising give a general manipulation of the abdomen to keep the bowels active. Stimulate the liver by rhythmic pressure, percussion and vibration.

(6) Make sudden applications of cold or ice water or ice bag over the inguinal region to cause contraction before putting on the supporting pad.

As soon as possible urge the patient to lay aside the supporting pad. In a short time the abdominal muscles will be toned up to a degree that will render artificial support unnecessary for hours at a stretch. These periods will increase in length as the tonicity of the muscles is restored. When the patient feels capable he should go without the support, though he should carry it with him to put on in case of need. In a few months even this precaution will be unnecessary.

While exercising to cure a hernia the patient should lie on his back on an inclined table, the feet higher than the head. An incline of ten or fifteen degrees is about right. In this position gravity prevents the intestines from bulging out during the exercises.

Typical exercises for inguinal hernia:

I. Patient lying on the back, legs apart, the arms extended along the head and the hands grasping the edge of the table. The operator resists as the patient draws the knee of the afflicted side up to his chest. (Fig. 2). This is repeated a number of times. For the sake of general effect upon the

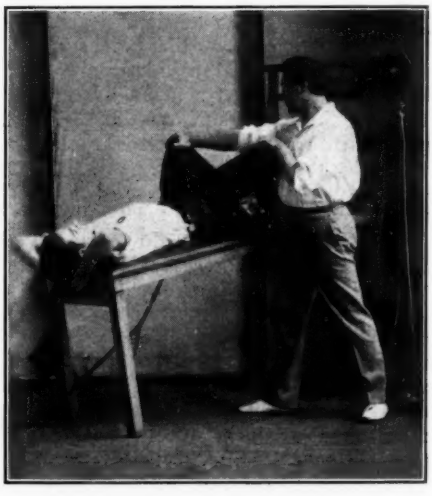

Fig. 3.

abdominal muscles it is well to flex both knees, with or without resistance.

II. Patient lying on his back, knees bent and apart. The operator offers resistance as the patient brings them together. (Fig. 3).

III. Patient lying on his back, hands grasping the edges of the table back of his head. He flexes the knees up to his chest and straightens the legs to the left, then he flexes them again and straightens them to the right, and so on a number of times. This exercise needs no assistance or resistance, and it particularly affects the oblique muscles of the abdomen.

IV. Patient lying on his back, legs far apart, hands grasping the edges of the table back of the head. As he elevates the legs he draws the feet together so that they touch at vertical position. As he lowers the legs he gradually spreads them apart again.

V. Reverse leg swimming. The patient is lying on the back, hands grasping the edge of the table beyond the head. He spreads the legs apart, bends the knees up to the chest as he brings the legs together and then straightens them out again while they are close together. He repeats the entire motion a few times before resting the legs. (Fig. 4).

VI. Circle the knees, keeping the feet off the table. The patient is lying as for the above exercises. He flexes the knees up to the chest, carries them out to the side and then downward as he straightens them out, then continuing in one movement he carries the legs around to the right

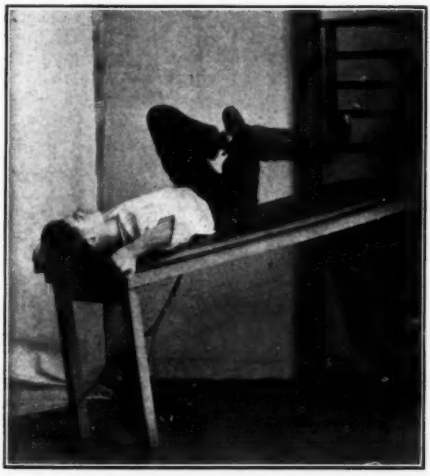

Fig. 4.

and gradually flexes the knees as he completes the circle. This is repeated a few times without interruption, then in reverse order, the knees are carried to the right, downward, to the left and up to flexion, and so on. When this circling is done as in the first case, it affects chiefly the right inguinal area, and in the second case, the left inguinal, although the movement in either direction affects and strengthens the entire abdominal walls.

Fig. 5.

VII. Lying as for above movements, feet together, the patient elevates the legs and spreads them apart as they go up, bringing them together as they are lowered again.

VIII. Patient lying as for above movements, he raises the legs to vertical, and keeping them close together, knees straight and feet pointed, lowers them out to the left, then elevates them to vertical and lowers them to the right, and so on. (Fig. 5). This is a valuable exercise to strengthen the abdominal walls, elevate the viscera, and reduce the size of the waist. To affect the hernia side especially, the legs are lowered and elevated from the afflicted side most. For instance, supposing there is a left inguinal hernia, the legs may be lowered twice or three times to the left to once to the right.

IX. Patient lying and grasping the sides of the table as for above exercises, he raises the legs to vertical, keeping the knees straight, toes pointed, and carries them down and outward to the left, then straight down without touching the table, over to the right and upward to vertical again, describing as large a circle as possible with the feet. This circling is done going down to the right, from vertical position, or in reverse order. It should be repeated several times in either direction in a continuous movement without resting the feet on the table. To affect the hernia side particularly perform the last half of the circle, that is, lifting the legs, to that side, and repeat twice or three times in that direction to once in the opposite.

X. Patient lying, with the hands on the hips, the feet held down under some object, keeping

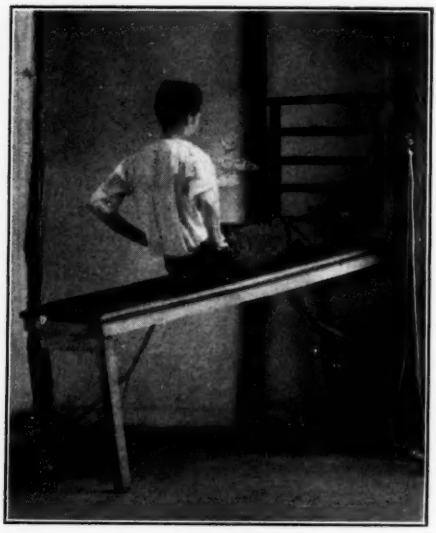

Fig. 6.

Fig. 7.

the head back, he flexes up to sitting position. (Fig. 6). This movement, as well as the two following, may be made more difficult by placing the hands at the shoulders, or locking the fingers behind the head, keeping the head in line with the trunk and the elbows well back as the body is flexed upward.

XI. The feet held down as for exercise 10, hands on the hips; to affect the right inguinal hernia the patient turns the shoulders as far as possible to the left, so as to twist the trunk and place the strain particularly at the right inguinal region. The trunk is kept twisted as it is flexed up a few times. (Fig. 7). To affect a left inguinal hernia the trunk is twisted to the right and kept so during the exercise.

XII. The feet held down as for the above exercises, the hands on the hips. The patient flexes the trunk half way up and, holding it there, the head in line with the body, the shoulders well back, he twists to the left and forward, or to the right and forward, a few times. The turning is done to the side opposite the hernia. This exercise should be done to both sides to strengthen the entire abdominal region, but it is best to especially affect the hernia side by turning twice or three times to the opposite to once to the same side as the hernia.

MENTOR BLDG.

Osteopathy and Cataract

ROBERT H. DUNNINGTON, D. O., Philadelphia, Pa.

(*Address before the Kansas City Sessions of the A. O. A., August,* 1916).

THE subject on which I shall speak is one of interest, I trust, to all. "The Diseases of the Eye from an Osteopathic Standpoint" is a subject which we approach with hesitation, most of us referring such cases to oculists of the older school. Why is this? As I understand the situation, we have failed to give the subject the proper study.

When we take up this discussion it becomes necessary to know the structure before we are able fully to understand the function, and to know the function is necessary before we are in a position properly to diagnose and treat conditions of this character. As I have decided to discuss cataract in this paper, we will first take up the development of the lens. Cataract, let me say in the beginning, is a change in the density of the lens, producing opacity and therefore causing blindness, complete or partial.

The development of the lens, in its early stage consists of a solid rounded mass of cells budded off from the epiblast. This subsequently becomes a hollow vesicle lined by a single layer of epithelial cells and enclosed in a thin elastic membrane (lens

capsule). It is surrounded by a vascular capsule supplied by the hyaloid artery, and anterior ciliary vessels (pupillary membrane) which disappears shortly before birth.

The fibers are formed by the cells lining the posterior surface of the capsule growing forward to fill the cavity, thus forming again a solid body. Gradual development of the lens goes on throughout life, but the actual bulk does not increase to any extent, as the fibers merely become more closely packed and lose some of their fluid (sclerosis).

Hence the other fibers, i. e., the central part, are the first to sclerose, which accounts for the fact that the lens is less translucent in old people. It is this part also which forms the hard nucleus of a senile cataract.

The fibers are deposited in lamellae, like the layers of an onion, and are joined together side by side so that the cemented material forms a stellate figure on the surface.

The lens is enclosed in a transparent, elastic capsule, which is thicker anteriorly than posteriorly, and is lined on the inner surface of its anterior portion by a layer of low, cuboidal cells. Toward the equator of the lens these cells become elongated into mononucleated fibers, all of which bend around the margin of the lens, and meet on both sides of the lens, their ends forming a stellate figure (lens-star), and being held together by a cement substance. The lens fibers contain globulin, enclosed in a sort of sheath. They are flattened mutually into hexagonal fibers, those of the central layers having their edges interlocked by means of toothed projections.

For the sake of simplicity the lens may be considered as a bi-convex body, with spherical surfaces, the posterior surface having the greater curvature. The anterior surface, however, really represents a part of an ellipsoid, produced by rotation about the short axis. The posterior surface resembles the vertical section of a paraboloid, that is, it may be considered as produced by the rotation of a parabola about its axis. The outer layers of the lens have a lower index of refraction than the more internal layers. The central nucleus is of greater density than the lens as a whole, and it is at the same time more convex. The edge of the lens is always separated by an interspace from the ciliary process.

Nutrition of the lens. The nutrition of the lens is carried on by a process of modified osmosis in which the cells lining the capsule play an important part. When death of these cells occurs the lens becomes opaque (cataract). Changes in the ciliary body, such as cyclitis, produce toxic bodies in the aqueous humor, which cause death of these cells.

Position of the lens. The lens lies between the viterous and the aqueous chamber, and is held in position by the suspensory ligament, which is attached to the equator of the lens on the one hand and the ciliary body on the other by numbers of interlacing fibers. The tension on these fibers accounts for the flattened lenticular shape, hence a lens removed from a young eye assumes a rounded form.

General Definition of Cataract

Any opacity of lens or capsule, or both, is due to the alteration in the density of the structure; as, for example, water shaken up with air looks opaque, so the alterations in density of the different parts of the lens or capsule make it also appear opaque. Cataract may be partial or complete, stationary or progressive, congenital or acquired. The opacity may be situated in the lens or its capsule. The opacities in the lens are best seen by focal illumination.

Etiology of cataract. Until recently age was supposed to be the chief influence in producing cataracts. Later investigations have shown that cataracts are found in persons of all ages. In India the majority of cases come to operation at forty years, while there are many cases in this country as late as ninety, and some cases have been reported at 103.

The causes of many of the forms of cataracts, which until recently were universally conceded to be unknown, are now traced either to local defects of nutrition, such as cyclitis, or to some general toxic condition, such as diabetes, causing death of the cells lining the anterior capsules of the lens inducing osmosis of the aqueous. As a result the subcortical fibers become broken up into globular masses, which collect first within the cells and then run to-

gether until the cortex of the lens is of a semi-fluid consistency. The sclerosed nucleus remains, and is the portion of the lens which is extracted by operation.

With increasing age the consistency of the lens is altered, so that cataracts occurring late in life are harder than those in young persons. In persons past middle life the reflex becomes more and more dense, so that in some elderly individuals the appearance of the pupil by ordinary illumination is similar to that of gray opacity of the lens, although the lens as well as the patient's visual acuity may be quite normal. In addition to this general loss of transparency, age is attended with a great liability to distinct localized opacities of the crystalline lens. The lens may be altered in consistence, size, shape and transparency.

Symptoms of cataract. Diminution of vision is perhaps the most prominent symptom. It varies according to the situation and character of the opacity. A peripheral cataract may be undetected for a long period, as it occasions very little disturbance of vision, while central opacities produce a marked diminution of visual acuity. Haziness and spots before the eyes are complained of by the patient, together with double vision and distortion of images. In the early stages, particularly in senile cataract, the swelling of the lens produces myopia, and the patient is able for a while to discard reading glasses. This condition, however, is not permanent, and constitutes the "second sight" of the laity.

Inflammatory symptoms may be present, but are not dependent on the lens' condition. The anterior chamber may be normal in depth, or it may be shallow or deep, according as the lens is swollen or contracted. The pupil may be normal, but it is usually dilated on account of the obstruction the opaque lens offers to the passage of light to the eye-ground, thereby interfering with the pupillary reflex. The color of the pupillary area varies from a grayish hue to black, depending upon the maturity of the cataract, but at no time is the pupil filled by the normal bright red reflex. Examination by means of the ophthalmoscope shows a black spot on a red ground in the early stages, but in the late stages the red ground is entirely effaced.

Cataract has been divided into four stages:

1. Incipient, a condition in which there are striae in the lens.
2. Swelling of the lens due to liquefaction of the fibers of the cortex.
3. Mature cataract, in which the cortex is practically semi-fluid, and the lens completely opaque.
4. Morgagnian or hypermature, when the fluid begins to be absorbed again, and the sclerosed nucleus remains at the bottom of the capsule. There are no markings on the surface, and often a brownish shade is seen in it. Calcareous changes may occur in it, especially if the cataract has been caused in the first instance by inflammatory disturbances.

Cataracts May Be of Congenital Origin Or Acquired

Cataracts are congenital and acquired. Congenital and infantile forms are divided into:

1. Complete—Nuclear, anterior polar, posterior polar.
2. Partial—Lamellar, hereditary dot cataract, axial fusiform cataract, triradiate cataract and corralliform cataract.

Complete congenital cataract is due to a defect in the posterior capsule; the lens is often so much shrunken that it consists practically only of a thickened capsule.

The failure in development of the cortical fibers of the lens leads to a congenital Morgagnian cataract.

Partial infantile cataract. Anterior polar cataract usually takes the form of a round white dot on the anterior capsule of the lens. It is probably due to the late formation of the anterior chamber, and contact of the lens with the back of the cornea causes the opacity.

Posterior polar cataract occurs on the posterior capsule of the lens as a round white area. It is probably due to the imperfect development of the vitreous in the cone, formed by the breaking up of the hyaloid artery, and is usually associated with a gap in the posterior capsule.

Nuclear cataract is the condition when the nucleus of the lens is opaque; it is round

in outline and situated in the center of the lens. Lamellae cataract is the commonest form of cataract in early life, and is due to certain lamellae of the lens being either congenitally opaque or becoming so later. It usually affects both eyes and is present at birth, or develops very shortly after. When seen with the ophthalmoscope it is usually semi-translucent, and just beyond the margins are seen dense markings known as "rider;" these form the summit of the outside lamellae, which are also opaque. It is often associated with defective development of the enamel of the teeth, which show the typical cross line appearance associated with that disease.

In hereditary dot cataract multiple dots are frequently seen in the periphery of the lenses. They rarely occur in sufficient numbers or occupy a sufficiently central position to interfere much with vision. Whole families are often affected with the disease. Occasionally these dots are of a green color. Defects in the lens fibers around the nucleus give rise to axial fusiform cataract or backward or forward displacement of the nucleus. Defects in the line of suture give rise to triradiate opacities or coralliform axial cataract.

The general symptoms produced depend on the density and position the cataract or the defect of vision caused thereby. In the complete congenital form and in dense lamellar cataract the child may only have perception of light, and it is then often associated with nystagmus. On the other hand a very thin lamellar or anterior polar cataract may cause practically no defect of vision. In a nuclear cataract the patient may be able to see around the opacity if small, provided the pupillary area is not entirely filled by it.

Acquired cataract is:

1. Partial—Anterior polar cataract, posterior polar cataract.
2. Complete—Senile, toxic, diabetic, albuminuric, also those due to changes in the ciliary body.

Anterior polar cataract is chiefly a capsular opacity, and is due to the contact of the umbo, or apex of the lens with the back of the inflamed cornea. It is, therefore, distinguished from the congenital form by the fact that there is always a nebula in the cornea over it, though possibly very faint, indicating an old perforating ulcer, as is often the case following ophthalmia neonatorum. No treatment, as a rule, is required for the condition.

Posterior polar cataract occurs in the posterior cortex of the lens. It is usually due to defective nutrition arising from inflammatory disturbances of the ciliary body of choroid. It is, therefore, of the utmost importance to make sure of the condition of the fundus before operating on such cases. In the early stages it is distinguished from the congenital form by the fact that it is striate in appearance, whereas the congenital form as a rule is perfectly round and is on the capsule and not in the substance of the lens.

Senile, toxic and diabetic cataracts show no difference from each other clinically.

After-cataract. A condition characterized by an opacity of the lens capsule either posterior or anterior, which exists or develop after removal of the crystalline lens.

In performing a cataract operation either a part of or the whole lens capsule is allowed to remain in the eye. A number of operations have been devised for the purpose of removing the entire capsule as well, but the advantages and the risk attending these operations bear no proportion to the difficulty during and after operation.

Osteopathic View of Cataract

Up to the present time we have been considering cataract from the standpoint of the general knowledge of the subject as modified under the treatment of oculists of the old school. From the viewpoint of osteopathy cataract may be divided into two classes, 1, nutritional; 2, traumatic. Under nutritional cataract we find all congenital forms and all acquired forms except those produced by traumatism to be the result of defects of nutrition.

Traumatic cataract is produced by an injury to the lens, the most common cause being the entrance of a foreign body through the cornea which ruptures the lens, although cases have been reported in which the lens was dislocated or even ruptured without any wound of the coats of the eyeball.

It is only in very rare cases that a foreign body enters the lens substance without

producing cataract. The mere pricking of the lens with the point of a knife, as may accidentally occur in performing an iridectomy or paracentesis, is sufficient to produce cataract, and there is no question that the condition has frequently been produced in this way. If the capsule is perforated by the entrance of a foreign body the aqueous is admitted to the substance of the lens, which may rapidly become opaque. The lens usually becomes more rapidly opaque in younger than in elderly persons. Cases have been observed in which the entire lens became completely cataractous in the course of a few days after the injury.

What has made osteopathy effective from its very inception has been a definite constructive principle. The intact anatomical, tested in the crucible of experience, carries with it a principle that establishes the completeness of the organism—the function of self-repair.

The duty of the physician beyond everything else is to discover the cause of the disorder and remove the same, if possible. The cause may rest within the very character (disorder) of the structure of the mechanism itself, for the structure is the necessary basis of function (although one cannot be separated from the other), or the cause may originate with continued and profound disturbances of the function, which are constantly registered upon structure.

It is important to reason out the philosophy of treatment. The therapeutics must be scientific and philosophic. In saying this we mean that therapy must conform to the science of the structure and functions of the organism and to the philosophy of vitality revealed in the vital mechanism and its life phenomena.

The osteopathic system is based upon the fundamental of the nervous system. The framework of the body is simply a piece of vitalized machinery, constructed for the manifestation of nervous and mental life, and used as a medium of the expression of the deeper life forces. These life forces must come to the front if our system is to be deemed of value.

The basis of therapeutics. The osteopathic system of treatment then depends on the fact that there is a definite relation between the nervous system and every tissue and organ in the body, the great central point of control being the neuron cells in the brain, the nervous system being the medium of distribution for energy, force and nutrition. Those are three points which we must clearly distinguish from one another in the economy of nerve distribution.

Eye Has Wider Nerve Connection Than Any Other Organ

According to recent investigations the eye is found to have a more wide nerve connection than probably any other organ in the body. As the function and correlation of the eye with the remainder of the body, and the influence on other organs is understood, the complexity of its nerve supply is much simplified.

Optic nerve (*nervus opticus*). The second nerve, the nerve of sight, is really a brain tract, rather than a nerve, and its fibers are imbedded in neuroglia and do not possess a neurolemma. It rises in the gangliar layer of the retina, passing through the choroid and sclera of the eyeball, and the optic foramen of the sphenoid bone, it enters into the optic chiasma, where the "nerve" is said to end. There are three sets of these fibers, namely, the intercerebral, the direct and the decussating.

There is a fourth group of fibers called the inter-retinal, said to be commissural for the retinae. But the fibers of the nerve continue without interruption through the optic tracts and their lateral roots to the inter-brain and the mid-brain, whose surfaces they pierce; they end in the lateral geniculate body, in the pulvinar of the thalamus, and in the superior colliculus of the quadrigeminal bodies where the three terminal nuclei are located.

Optic radiation. The optic radiation is a two-way funiculus composed of afferent special sense, and efferent, reflex fibers. The afferent fibers, thalamo occipital fasciculus rise in the latter geniculate body, and the pulvinar of the thalamus and carry the visual impulse through the internal capsule to the striated cortex along the calcarine fissure, where they evoke the sensation of sight.

The efferent, occipitothalamic fibers rise from the large solitary pyramids of Meynert

in the visual cortex; they descend through the optic radiation to the lateral geniculate body and thalamus, and through the brachium superius, some continue to the superior quadrigeminal colliculus. In the superior colliculus contacts are formed with tacto-spinal neurones whose axones end in motor nerve nuclei, cranial and spinal. Destruction of the optic radiation on one side causes blindness in the opposite half of the visual fields, homonymous hemianopsia, without loss of optic reflexes.

The optic radiation of the capsule connects these centers with the medial occipital cortex. Like other sensory nerves, the optic sends a few fibers to the cerebellum, which are concerned with co-ordinated movements. The medial root rises and ends in the medial geniculate body and thalamus. Its fibers form the commissura inferior. The thalami quadrigeminate and geniculate bodies are co-ordinating and reflex centers, being connected with all motor, sensory and vaso motor areas of the cerebrum, cerebellum, pons, medulla, and spinal cord.

There is abundant evidence that fibers arising in the corpora quadrigemina descend into the spinal cord. Various studies make it appear that at least part of these are fibers from the fountain decussation, and that these course through the medulla oblongata in the ventral part of the medial longitudinal fasciculus, and thence descend into the cord in the "quadrigeminothalamus path" (lateral mesencephalo-spinal tract). The medial longitudinal fasciculus is continuous with the ventral fasciculus proprius of the spinal cord, and most of these fibers arising in the superior quadrigeminate bodies retain their ventral position in the cord as the sulco-marginal fasciculus of the opposite side. There termination about those ventral horn cells of the cervical cord which send fibers through the rami communicantes probably establishes the pathway by which the superior quadrigeminate bodies are connected with the cervical sympathetic ganglia, and by which may be explained the disturbances in the pupillary contraction induced by lesions of the lower cervical cord.

The medial geniculate body and the medial root of the optic tract, which runs into the former, probably have nothing to do with the functions of the optic apparatus. Both remain intact after extirpation of the eyes. The medial root of the optic tract is apparently nothing more than the beginning of the inferior cerebral (Gudden's) commissure, a bundle passing by way of the optic tract, connecting the medial geniculate body of one side with that of the other side, and probably with the inferior colliculus.

The medial longitudinal fasciculus (posterior longitudinal fasciculus) continues into the ventral fasciculus proprius, and the sulco-marginal fasciculus of the spinal cord extends throughout the rhombencephalon and mesencephalon, and is represented in the hypothalamic region of the proscencephalon. Deserted by the lemniscus at the inferior border of the pons, it maintains its closely medial position and courses throughout the immediate ventral margin of the central gray substance of the medulla and floor of the fourth ventricle, and likewise in the ventral margin of the central gray substance of the mesencephalon. Also, the thalmospinal fasciculi carrying co-ordinating impulses to the lower motor neurones presiding over locomotion, passing through the lateral columns of the cord terminating at the first lumbar segment, anastomosing with cells of the sciatic. An irritation of the sciatic produces congestion of the eyes, through the association fibers of the spinothalmic bundle, an ascending fasciculus located in the lateral columns of the cord, and corresponding to the thalmo-spinal bundle, the spino-thalmic being the reflex path fibers of sensation. This is also undoubtedly the path fibers of nutrition, as destruction of the Gasserian ganglion does not produce the changes in the eye that would occur if the Gasserian ganglion were the only source of nutrition to the eye.

Nerve System of the Eye

The ciliary ganglion, which really belongs to the third rather than to the fifth nerve, has three roots, (a) the short root from the oculomotor, (b) the long root from their nasociliary, and (c) the sympathetic root from the carotid plexus, occasionally united with the long root (b). From the ganglion there arise between six

and ten short ciliary nerves, which together with the long ciliary nerves, penetrate the sclera near the entrance of the optic nerve and pass forward between this and the choroid.

Whether dilator branches pass in man through the sympathetic root of the ciliary these fibers do not pass through the ciliary nerves has not been demonstrated with certainty. In the dog and in the cat at least these fibers do not pass through the ciliary ganglion, but directly along the optic nerve to the eye, all passing through the Gasserian ganglion the first division, and finally through the long ciliary nerves. The center of the motor fibers of the dilator of the pupil will be described.

It is as yet undetermined whether trophic fibers also arise from the trigeminus through the ciliary nerves. If the trigeminus be divided in the cranial cavity, there result in the course of from six to eight days inflammation, necrosis of the cornea and finally destruction of the eyeball.

As Meissner, Buttner and Schiff observed the eye to become the seat of inflammation after dividing only the trophic (innermost) fibers of the trigeminus, the eye retaining its sensibility, the existence of trophic fibers might be considered as demonstrated, but Cohnheim and Senfleben contradict these findings. Conversely the sensibility of the eye may be lost in consequence of partial injury of the nerve, and the eyeball does not become inflamed. Ranvier, who denied the existence of trophic nerves, incised the cornea in a circular manner through its superficial layer, at the same time dividing the nerves, all of which are present in this situation. There resulted anasthesia, but never keratitis. Further, in man and animals in which inability to close the eyes exists, redness with flow of tears or slight desiccation and cloudiness of the surface of the eyeball (sclerosis) set in, but never such a destructive inflammation as that described.

The following factors, to which hitherto little reference has been made, should further be taken into consideration. Division of the trigeminus paralyzes the vasomotors in the interior of the eyeball, and in consequence derangements in the circulation of the blood must take place. According to Jessner and Grunehagan the trigeminus also transmits vasodilator fibers to the eye, irritation of which causes increased flow of blood to the eye, with consecutive elimination of fibrin factors and increase in the amount of albumin in the aqeous humor.

The center for dilatation of the pupil is situated in the lower cervical portion of the cord extending downward to the level of the first, second and third thoracic vertebrae—Budge's ciliospinal center. It is stimulated by darkness. In man both pupils react simultaneously if the retina on one side is darkened. Extirpation of this portion of the spinal cord on one side is followed by contraction of the pupil on the same side. The motor fibers, which have their trophic center in the same situation, pass through the anterior roots of the upper three thoracic nerves, in the cat, into the cervical sympathetic.

The pupillary fibers passing through the trigeminus arise from the origin of this nerve and downward as far as the second cervical nerves. Anastomotic fibers pass from this point downward through the lateral columns of the spinal cord to the ciliospinal region, and thence through the three or four uppermost thoracic nerves into the cervical sympathetic.

Nutrition the Important Factor

The nutrition is the important factor in all cases of cataract; the nerve supply is the controlling factor which governs both the blood and lymph from which growth and regeneration take place. The nutrition to the eye is governed by nerve supply coming from two sources, while it is probably of one origin, that of the spinal cord. The nutrition center of the spinal cord is located from the second thoracic to the second lumbar segments of the cord. Fibers of nutrition to the eye are carried from the cord by way of the sympathetic chain from as low as the third, fourth and fifth thoracic upward, passing through the three cervical sympathetic ganglia and carotic plexus.

Where a division takes place a part of these fibers pass through the Gasserian ganglion, the remainder continuing through the cavernous plexus to reach the optic

nerve and ciliary ganglion. The trigeminus nerve is an important factor in the nutrition, while its root is the Gasserian ganglion. Fibers passing backward, upon entering the brain-stem bifurcate in ascending and descending divisions, just as the entering dorsal root fibers of the spinal nerves, and find their nucleus of termination in the dorsal lateral column of gray substance, lying deeply and extending longitudinally through the brain stem. Opposite the entrance of the nerves is a considerable thickened portion of this column of gray substance known as the sensory nucleus of the trigeminus, and the remainder below is the nucleus of the spinal tract. The descending branches are much longer than the ascending, and in passing downward from the spinal tract of the trigeminus is well marked in all transverse sections of the medulla oblongata. The spinal tract decreases rapidly in descending through the medulla, owing to the rapid termination of its fibers into the nucleus of the tract. These fibers anastamose with fibers passing downward through the lateral columns of the cord as low as the third and fourth thoracic vertebrae, the anastamotic fibers with additional fibers from the nutritional centers passing from the cord out to join the sympathetic chain and continuing the course upward as described.

Apart from those in the conjunctiva there are no lymphatic vessels in the eyeball, but the fluid is contained in spaces of various sizes. These are divided into an anterior and a posterior set.

1. Anteriorly, there is the anterior and posterior aqueous chambers (together composing the aqueous chamber of the eye), which communicate freely through the pupils. The aqueous humor is formed in the posterior of these chambers by transudation from the vessels of the ciliary body and posterior surface of the iris. The stream passes mainly forward through the pupil into the anterior aqueous chamber, whence it escapes slowly by passing through the spaces of the angle of the iris into the venous sinus of the sclera and thence into the anterior ciliary veins. Part of the lymph stream passes from the posterior aqueous chamber backward into the zonular spaces, out of which fluid can pass into the lens substance, or diffuse itself into the front of the vitreous body, and through the hyalin canal.

Posteriorly this is continuous with a lymph space surrounding the surface of the optic nerve in the form of a sheath; anteriorly it is in direct communication with the sub-conjunctival lymph space of the eyeball. The optic nerve has three sheaths, (1) the dural, (2) the arachnoid, and (3) the pial, arising from the corresponding cerebral membranes. Between these three sheaths there are two lymph spaces, the subdural between one and two, and the subarachnoid between two and three. Both are lined by endothelial cells, fine trabeculae extending from one wall to the other are similarly covered by cells. According to Axelkey and Retzius these lymph spaces communicate anteriorly with the pericordial space, through these channels broken down material is carried away.

Osteopathic Treatment of Cataract

And now we come to the very fundamental treatment of cataract. It is to renew the nutritional processes in the lens, so that diseased cells may be restored to health, that the waste matter may be carried off by normal functioning, and that the old tissue may be replaced by new. Osteopathy is constructive, and constructive by means of normal processes. We have in the course of this paper minutely examined the structure of the eye, analyzed its nerve relationships, and seen that while it contains no lymphatic vessels it is plentifully fed with lymph. The aim of osteopathy in treatment of cataract should be to remove whatever obstructions there are to normal functioning, so that the nutritional processes will be encouraged, and nature herself will cure the malady which is a condition due to defective nutrition. And to do this the osteopath must use the minute knowledge we have of the lens and capsules, illuminated as it is by analogy to other anatomical factors.

The most striking illustration of the development and growth of the lens is a comparison with those processes in bone. Bone grows from the periosteum. The cells producing bone matter and those producing the lens fibers are identical in action. In nutri-

tional disturbance of the bone the periosteum or cells lining the periosteum are the first to become involved. In cataract, if the disturbance is in the capsule, the capsule becomes opaque and blindness ensues, usually before the lens fibers degenerate. But should the cells from which the lens fibers grow first become involved, the opacity shows on the surface of the lens, and if continued produces to the lens an effect analagous to that produced in the bone by the destruction of the periosteum. When this degenerative process develops in the lens or capsule, the dead material accumulates until it forms a curtain which shuts out the light and causes blindness. The older schools have introduced in their treatment for this condition surgical operations, removing the lens or capsule, or both according to the location of the degenerative process. It is highly important, of course, in any treatment, to determine whether the degeneration is in the lens or capsule.

But the method of osteopathy should be to restore the impaired cells to health, rather than merely to be content with ending the degenerative processes by removing the diseased organ. My experience has been that capsular degenerations rebuild more readily than those of the lens. In lens degeneration, the broken down material which is producing the opacity becomes liquefied, and the liquefaction destroys the substance which holds the lens fibers in position, allowing a separation of the fibers between which degenerative material enters, causing what is called a swelling process, or Morgagnian cataract.

It has been only recently that treatment to establish normal conditions in cataracts was considered. While that has not been done extensively, enough has been done to prove osteopathic treatments will rebuild and prevent further degeneration obviating surgical operation for this condition. I am, of course, speaking of cataract developed from defects of nutrition, those which early in this paper I classified for osteopathic purposes as nutritional. Other causes than defective nutrition are not contemplated in this treatment. Many cases of traumatic or congenital are never serious enough to necessitate an operation.

We are asked how it is possible to establish normal conditions after the degenerative process has begun. Our answer is to establish normal nutrition through the nerve supply. We know that nutrition is controlled by the nerves; we know the nerve centers and the distribution of nerves from those centers. We know which are in control in the eye. We have proved that osteopathic action on these nerve centers will encourage normal functioning of the nutritional processes in the lens and capsule. We have every reason to believe that the treatment will eliminate the cataract condition, restore and preserve normal sight in any case in which there are sufficient tissue and energy to form a basis for the rebuilding process.

Our greatest work of the present and future is to learn how to control more completely the various mechanisms within the body; first, to secure a complete clinical picture as revealed by every possible method of examination, and then to devise a therapy that will harmonize physiologically with the mechanism or mechanisms that are at fault. A co-ordinated structure is fundamental to functional integrity. Definite results can be secured through removal or control of the etiologic factors, whether of the osteopathic lesion or of environing forces, but this requires specific knowledge. Independent of surgical conditions and hopeless pathological states, there is commonly sufficient tissue and energy to meet the requirements of self-repair, provided we know how to adjust the lesion, establish circulatory and nervous control. I know this is far more easily said than done, but two points here I wish to emphasize: The completeness of the bodily organism and the demand for specific diagnosis and therapy. These are the fundamentals of practical osteopathy.

Real Estate Bldg.

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Original Technique in Correction of Knee Lesions

H. A. NORTHROP, D. O., Bemidji, Minn

LESIONS of the knee joint have always been interesting to me, because we as a profession have no original technique for their correction. The methods taught in our schools are strictly those of the medical schools. I am going to demonstrate my method and try to show you how and where I got my idea. First I will quote from "Rose and Carless Manual of Surgery," under the heading of "Displacement of the Semilunar Cartilages of the Knee-Joint."

Displacement of the semilunar cartilage of the knee-joint is a condition frequently met with, resulting from sprains and strains associated with tortion. In any rotary movement of the knee, which is only possible when the limb is flexed, the pressure of the condyles always tends to modify the position of the cartilages, which, moreover, are relaxed and * * * more movable on the upper surface of the tibia in flexion than extension.

Displacement of a cartilage is always due to a sudden strain or wrench of a rotary type, such as turning around quickly in such games as tennis or football, or slipping off a curb with the knee bent.

The inner cartilage is much more quickly affected than the outer, and the character and extension of the lesion varies in different cases. Sometimes its anterior or posterior tibial attachment is torn through, thereby permitting considerable lateral mobility; but more frequently the cartilage is broken across the middle, or split longitudinally, thereby detaching a hinged portion from its free border, which slips in or out of position, and not uncommonly gets nipped between the bones or may even be doubled over.

It subsequently becomes inflamed and swollen, and unless properly treated the displacement is liable to be repeated.

The symptoms produced by this accident are a sudden sickening pain of much severity, located in the knee, which becomes partially locked in a position of flexion with inability to extend it. The patient may be able to wriggle his joint free, or the limb may remain stiff for some hours, or even a day or two, when movement suddenly returns, more or less spontaneously, a snap being at the same time felt within the joint.

An attack of subacute synovitis usually follows.

In other cases the cartilage remains out of place until reduced by a surgeon, with or without an anesthetic.

If the case is not correctly treated, the displacement is liable to recur, the cartilage constantly slipping in and out and getting nipped between the bones. As time goes on this becomes more and more easy, owing to the ligaments of the joint being relaxed from the recurrent attacks of synovitis. In fact, the limb may pass into such a state of chronic weakness as to interfere seriously with the patient's comfort.

There is usually a spot of localized pain in front of the joint, corresponding to the upper surface of the tibia; possibly there may be some lateral mobility of the leg, and movement of the cartilage may be detected on flexing and extending the knee.

The diagnosis is not always easy, as the symptoms may be simulated by other conditions, such as loose foreign bodies in the joint, or a fringe of synovial membrane thickened and swollen and protruding backward and getting caught between the bones, or perhaps pushed backwards by the enlargement of the bursae beneath the ligamentum palallae.

The definite history of traumatic onset is an important element in the diagnosis of a torn or loose meniscus.

Inflammation of a semilunar cartilage (meniscitis) also needs to be considered; it usually results from a heavy fall on the foot or heel, whereby the cartilage is bruised; painful limitation of movement results, and especially pain on standing or straightening the knee, which is kept semiflexed; there are usually no sudden attacks of painful locking of the joint, but the cartilage is tender, and can perhaps be felt, though it is not movable.

The treatment in the early stages consists in replacement of the cartilage by manipulation. The limb is fully flexed and then suddenly extended, pressure being applied at the same time in the neighborhood of the displaced cartilage, which often returns into position with a distinct snap. The limb is subsequently kept at rest in a back splint, and cooling lotions are applied till the inflammation has subsided; it is then further immobilized for some weeks in a removable plaster Paris cast, so as to allow the lacerated ligaments to reunite and consolidate. During this period massage is employed, followed by active movement, and movement against resistance, and finally the patient is allowed to walk.

When the cartilage has become loose and is constantly slipping out of place, immobilization of the limb, with pressure by an elastic knee-clip, or by a knee-truss, may be useful. Should this not prove satisfactory, operative proceedings must be undertaken.

A patient came to me after being treated by two of the best surgeons in Bemidji with no results. Being a little stale on knee work I turned to my text to "read up" on the knee. The foregoing article is the article that I read. I used the methods prescribed

Fig. 1.

Fig. 3.

without results. I read the article again and was impressed with the statement, "In any rotary movement, which is only possible when the knee is flexed, the pressure of the condyles tend to modify the position of the cartilages."

I reasoned it out this way: If rotation during flexion would cause the condition, why would not the same movement correct the condition?

I tried it out and it worked at the first trial. I discharged the case in two weeks. Because of this case I have had a great deal of knee work, and every case of displacement of the cartilages I have corrected in this manner.

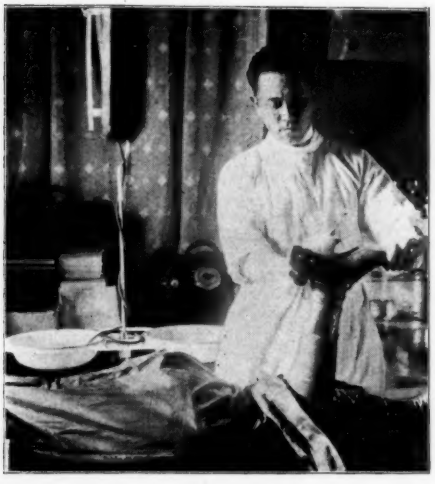

Fig. 2.

Fig. 4.

I have my patient lie on his stomach and flex the knee as in Figure 1. Then using the heel as a fulcrum and the foot as a lever (Fig. 2) I rotate the knee either inward or outward (Fig. 3), usually inward, as the inner cartilage is the one usually affected. The cartilage will in most cases go back with a distinct "pop." I then follow up the correction by placing the knee in a removable cast and go ahead with the treatment as prescribed in the article from "Rose and Carless."

Some of the profession are against the use of adjuncts. Personally I use the violet ray and the vibrator on my knee patients as well as the passive movements. I also use iodine to reduce the swelling (in the mind of the patient). For passive movements I rotate the leg in a circle, bringing the heel nearer and nearer the button (Fig 4). In stretching the posterior muscles I use the method shown in Figure 5. When I can bring the heel down so that it will touch (Fig. 4), I feel safe in allowing my patient to walk.

Fig. 5.

This method may be good or it may not. I have had success with it and have felt it my duty to give it to the profession. Use it or not as you see fit. I wish you success.

Knee Technique

C. W. YOUNG, D. O., St. Paul, Minn.

IN the case of a stiff knee which cannot be fully flexed or extended and the foot is everted, what are you going to do about it? Usually there is pain and tenderness, which are aggravated when walking is attempted. Such cases have come to me every year for the past sixteen years. I have seen no technique described in any publication neither have I found any person who could give any light on the subject, except Dr. Northrop, whose paper recently presented to the Southern Minnesota Association is published in this number of the Journal.

During these years I have studied my skeleton and books on anatomy, and experimented with every patient, till finally I have evolved a technique that enables me to adjust nearly all cases described as above, and I hope this article will prove a short cut to many in finding how to treat this trouble, which is quite common.

Dr. Reginald Platt informs me Dr. Still had worked out good technique for the knee where a rotation of the tibia was the cardinal principle of reduction, but according to Dr. Northrop this technique is not taught in the school. There are, doubtless, some individual osteopaths who are doing good work in knee troubles, but their methods are not generally known. Probably the technique described in this article cannot be used with success in some cases of stiff knee, yet I have used some of the movements to increase motion to some extent and relieve pain in cases of synovitis, white swelling and rheumatism of the knee-joint. It goes without saying that manipulations like those herein described should be avoided in a case of tubercular knee.

It has appeared that most of the cases I have had to deal with were cases of an outward rotation of the tibia, and I would like to raise a question as to whether misplaced semilunar cartilages are less common than is generally supposed. I

have never seen a case, where I thought the cartilage was misplaced. To be sure, when the tibia rotates, the cartilages are thrown in wrong relation to the femur, and the pressure of the femur in this unnatural relationship will cause great pain in the cartilages. The cup shape of the top of the two sides of the tibia with ample spaces for firm attachment of the two semilunar cartilages, and the firm enclosing capsular ligament of the knee lead me to believe that a misplacement of the cartilages will rarely occur.

Quite a number of cases of recent injury as well as long standing cases, causing symptoms as described at the opening of this article, have responded to treatment without any casts or bandages. I am sure, however, that the use of casts as endorsed by Dr. Northrop is just the right treatment for some cases. I am told that bonesetter Rease, of Youngstown, Ohio, makes an extensive use of bandages after adjustment of joints, and I am sure this is a feature of technique of which osteopaths know little, and that in some cases our technique would be improved if we investigated the art of bandaging or placing on casts after adjustment of lesions.

The limitation of motion in the knee caused by a rotated tibia varies greatly in different cases. Almost invariably where flexion is not complete, the extension is limited also. Usually extension is lessened only 5° or 10°, while possible flexion may be lessened from one degree to 100 degrees or more, the entire range of flexion in a normal knee being about 180 degrees. When the tibia is rotated, I would advise against any such forced flexion or extension as will cause much pain. It is the unnatural relation between femur and tibia that causes the impediment to flexion and extension, and only after you have replaced the tibia, will the surfaces of the bones be in such relation, that they can glide upon each other in a normal way. Again you can make little headway, if any, by trying to separate the tibio-femoral articulation by pulling on the leg, after extending the leg as far as it will go without force. The knee locks in such a position that you cannot secure helpful separation by extension, as is possible in the adjustment of most any other joint.

Figure 1 illustrates a movement that is very helpful in most cases, and that may bring about complete reduction in some few cases, even though they are of long standing. Grasp the leg with one hand while the patient is in the dorsal position, lift up the leg partially flexed, and then attempt to whirl it around in a circle, while you push against the lower end of the femur with the other hand. Sometimes you can with advantage while the leg is still partially flexed, push the tibia one way and the femur another, and thereby loosen the joint. Most of these cases cannot be reduced by any prestochange movement, especially the long standing cases. You must do considerable work to break up adhesions and normalize the tonicity of ligaments, muscles and other tissues.

Fig. 1.

Figures 2 and 3 illustrate movements designed primarily to break up adhesions and smooth out tissue. In Figure 2 the thumb on one side and the fingers on the other are placed firmly against the end of the tibia as it articulates with the femur. With the other hand alternate flexion and extension of the leg is made. As the knee is flexed, as firm pressure as possible is made against the tibia to separate it from the femur. Ordinarily the patient will suffer pain and will resist when you try to force flexion beyond the point limited by the misplacement of the joint, but with the separation secured by the thumb and fingers against the tibia, much more forcible flexion can

be made without hurting the patient or causing him to resist.

Figure 3 represents a treatment that

Fig. 2.

is not necessary to give just as shown in the picture to patients who are not men. It consists of a circular movement of the leg around the knee. This movement is of added benefit when done very rapidly. At first there is resistance to rapid movement, but more speed can be employed as you progress with the case.

Figure 4 represents the cardinal principle of reduction in these cases. The arm is around the heel and the toe against the body, so that by turning the body, an *inward* rotation of the leg is secured. That is, the patient's foot begins to describe an arc wherein the big toe leads. As in nearly all these cases there is an eversion of the foot indicating an outward rotation of the tibia. It is helpful while twisting the foot to pull back on the upper end of the fibula with the fingers and press against the upper end of the tibia on the inner surface of the anterior portion, in co-operation with the foot twist movement. Sometimes one can get the replacement of the tibia by giving a quick jerk, and often the pop is heard. This movement corresponds to the movement illustrated by Figure 3 in Dr. Northrop's article. I have found in some cases difficulty in using the movement as Dr. Northrop illustrates it, in that the foot will move on the ankle or the patient feeling pain in the ankle will resist. I have found it helpful in some cases to use the movement illustrated by my Figure 4 at varying stages of flexion and extension.

Figure 5 illustrates a technique that I have found very valuable in putting the finishing touches on hard, long standing cases. For years I could partially correct the stiff knee, but I could not complete the job, as I have been able to do with my more recent cases. In Figure 5 the thumb and fingers push against the upper edge of the tibia, the shoulder pushes against the foot, and the arm encircles the leg. You have complete control of the situation. With the hand against the femoral end of the tibia, you can separate the joint. With the shoulder against the foot you can force flexion as far as desired, and with the arm around the leg, you can rotate the tibia, while flexion is taking place. As you flex, you should sway the body back and forth, moving the leg inwardly and outwardly. In this manner you can persuade the joint to normal action. In nearly all cases, I use the technique illustrated by all the figures presented herewith, in the order named. Usually a treatment will require from 20 to 30 minutes. The technique is susceptible of many modifications, wherein the principles of movement illustrated in this article can be used.

Recent cases may require only three to six treatments, but severe or long stand-

Fig. 3.

ing cases may require from fifteen to twenty-five treatments, given three a week. Often as the knee improves in long standing cases, the muscles and mus-

Fig. 4.

Fig. 5.

cle tendons around the knee are slow in adjusting themselves to new conditions and massage of the parts is helpful to relieve stiffness.

The clinic patient shown in the photographs was injured five years ago, when he was thirteen years of age. He could flex the knee only about 90 degrees and the pain and soreness was greater in the last year than in any of the years before. The leading orthopedic surgeon in St. Paul had treated him for some time without any appreciable success. I gave him eighteen treatments, and now complete flexion is possible. After a few treatments, that resulted in considerable increase of mobility in the knee, his knee seemed weaker when trying to walk up stairs, and still later in the treatment he found that the muscle tendons on the external side of the knee would "catch" as he called it, making it difficult to use the knee. But in time all these difficulties were ironed out. He can now skate freely and use the knee with practically the same readiness as the other. There is still a little tendency to eversion of the foot when he is in the dorsal position.

The writer does not consider this article, with that of Dr. Northrop, as in any wise exhausting the manipulative technique of the knee. He invites correspondence. What are your experiences? Do you understand the ideas as here set forth? Are you having any success with this technique?

PITTSBURGH BLDG.

Diagnosis of Pott's Disease of the Spine

CLIFFORD S. POLLOCK, D. O., Minneapolis, Minn.

(*Address before the Minnesota State Association, Minneapolis, Oct. 6 and 7, 1916*).

PROBABLY there is no other lesion more often erroneously diagnosed than Pott's disease of the spine, and with more fatal results following. Especially is this true under the osteopathic method of treatment, as this disease will stand very little manipulation or corrective work. This is true, because all motion in the seat of the lesion will set up an acute inflammation, which in itself is a destructive agent, and therefore is detrimental in making a cure. In this paper I am going to give a synopsis on diagnostic points of Pott's disease which I think will be of value and an aid in diagnosing this disease. I will first take up the general symptoms of the disease following

that with the physical findings, the regional examination and some different methods and technique for diagnosing the same.

General Symptoms

The general symptoms are pain, stiffness, weakness, awkwardness, deformity.

To formulate a better idea of the above symptoms I will take up each one separately.

Pain—You will find that the pain is not always referred to the seat of the disease because the products of the disease pass downward and forward where they infringe upon nerves leading to different organs of the body, setting up a reflex nerve irritation which may lead you to think that the trouble is elsewhere in the body. It may involve the nerves to the ear, causing ear troubles, or it may involve the nerves to the stomach, liver, intestines or the nerves to the kidneys, which will lead you to think that those organs are the seat of the trouble. But if you will trace the trouble to its origin you will find spinal involvement.

The pain is not always constant, and may be increased by sudden movement or by a jar. Then again it may be worse at night, the cause for this being that the body relaxes during sleep, thus leaving the seat of the lesion unprotected, and any restless movement during sleep will bring a spasmodic muscular contraction to it which will cause pain. This is often the cause of what we speak of as "night cries."

Stiffness—Stiffness or rigidity is always present, for it is involuntary and protects the lesion from motion as much as possible. This stiffness is of the muscular type, and can be found from the very beginning of the disease until a cure has been obtained.

Weakness—The cause of this weakness lies within the fact that this lesion involves the main support of the body, the spine.

A few of the signs of weakness are, the patient cannot walk or refuses to do so on account of the pain it causes or from the extensive degeneration of the body of the vertebrae. Or if they do walk they will want support, and while standing will lean up against the wall or use the back of a chair for support.

Awkwardness—Is an increased symptom of weakness; it is practically symptomatic of the disease, and shows a marked change in the gait as well as the attitude of the patient.

Deformity—Is a change in the appearance of the spine. It may be either muscular or a bony deformity. The deformity of the bone is generally of the posterior type. Very seldom will you find it lateral or anterior. The reason for this is that the body of the vertebra is involved, and as it necroses and the bone breaks down, the weight of the body crushes it downward and backward, causing a posterior prominence of the spinous processes of the vertebrae. The muscular deformity is due to the muscular spasms. Types that are of common occurrence are the wry neck, torticollis, psoas constriction and compensatory deformities.

Abscess—The first thing to note about an abscess is the size, the situation and the amount of trouble caused by it. The different areas which may be involved by an abscess will all give a distinct set of symptoms of their own. In the cervical area you will have the retro-pharyngeal abscess causing trouble with respiration, or in the thoracic region you are liable to confuse an abscess with pleurisy, empyema, etc., while an abscess in the illiac fossa will interfere with the patient's locomotion.

Paralysis—It is usually a late symptom, unless the disease is located in a place where rapid degeneration and early involvement of the cord can take place, for if this happens you are more than likely to have an early appearance of paralysis.

Physical Signs

Physical signs show in general health and attitude of patient. By attitude I mean the way he carries himself. When a patient comes into the office note the carriage, whether he looks for support, and see if there is sign of deformity and weakness. In taking family history go back and see if you can find evidence of this or any other tubercular lesion having been present in the family, for if you do find this evidence it's a good thing to remember that it shows a predisposition toward the disease for your patient. If the patient is a child, remember that in a child abnormal symptoms have a cause and do not be satisfied until you have located it.

Note the voluntary action of the patient, as this shows the body's adaptation to dis-

ease. By this I mean notice if the patient supports the head with his hand or sits in a position which will give support to some focus of the disease. Because all voluntary action will be or have a tendency to protect this focus from sudden movement and jar. Above all, note whether the voluntary actions of the body are free and unrestricted, as this will very often help you to discover the disease at a very early period.

Early Signs—The most important of these are restricted motion due to muscular contraction. Pain and tenderness in the early part of this disease will be confined to the lesion, and will be accompanied by a slight irregularity in the spine. This can be demonstrated by a forward bending of the patient, and if there is a lesion there will be a break in the normal contour of the spine. Remember that symptoms vary according to the location and extent of the disease, so be thorough in making your examination.

Regional Examination

For convenience in regional examination the spine has been divided into three separate parts to make a study of symptoms in each region. This is called the regional examination. The three regions are composed of the upper region, which includes the seven cervical and two upper dorsal vertebrae; the middle region, composed of the dorsal vertebrae, minus the first two and the last two segments, and the lower region, including the lower two dorsal and the lumbar vertebrae.

Lower Region—This is the region of free and extensive movement, thus you find evidence of the lesion before deformity occurs. Attitude is your characteristic symptom in this region, an attitude of over-correction or exaggerated lordosis, which gives the patient a peculiar swaggering gait and a loss of accommodation due to the lordosis.

Middle Region—This is the region of restricted motion, therefore the deformity often makes its appearance before evidence of the disease is found. The reason for this is that the destructive process has obtained such a toothold before the disease is discovered that the body of the vertebrae is partially necrosed and sloughs away, allowing the vertebrae above it to crush downward and backward, causing the deformity of the spine with a posterior protrusion of the spinous processes. Pigeon breast is secondary to the disease in this region.

The characteristic symptom in this region is painful and grunting respiration. This is caused by the approximation of the ribs interfering with the intercostal nerves and with the nerves of respiration. The approximation of the ribs is caused by the crushing of the body of the vertebrae at the seat of the lesion.

Other symptoms of importance are aimless, hacking cough, something on the order of a cigarette cough; stomach ache, short, stabbing pain; muscular spasms upon sudden movement or jars. Dragging legs or paralysis of them show spinal involvement, that is, involvement of the cord. An abscess in this region is often mistaken for pleurisy or empyema; it can be demonstrated by percussion.

Upper Region—This is a region of free and unrestricted motion, so there is evidence of the disease before deformity. This region is sub-divided into two parts, the occipitoaxoid region composing the upper half, the lower cervical and upper two dorsal composing the lower half.

The upper half is by far the most dangerous region to be involved on account of its close proximity to the vital centers, as those centers are easily injured by pressure or displacement of the weakened vertebrae. Symptoms in the upper half are as follows: Neuralgic pain radiating over the back and side of the head, following the distribution of the auricular and occipital nerves. The neck is stiff, the head may be fixed in midline or turned to one side, the chin being tilted to one side, giving the neck the appearance of torticollis.

The attitude and appearance are characteristic symptoms in this region. There will be limitation of motion, the head being held stiff and fixed in one position. To look behind the patient will use the upper part of his body with his head or follow you with his eyes as far as he can and then turn the trunk and head if he wishes to see further. The head will be supported by resting his chin in his hand. He will avoid sudden movement and jars. If an attempt is made to turn the head the patient will either grab your hands or cry out in pain in apprehension of the pain he knows will occur with such a movement. The seat of the lesion is noted by a slight thickening or bulging and

a sensitiveness of the vertebrae involved. In involvement of the axis-occiput or atlas-axis you will find that the yes or no movement of the head will be retarded.

Lower Half of the Upper Region—The symptoms here will be less marked than in the above region, the seat of the disease being located by a backward projection of the spinous process and a thickening around the structure involved. The head instead of being fixed in mid-line is more often found with the chin up and the head turned to one side, giving the patient the appearance of having a wry neck.

The pain is referred to the sternal region of the neck, to the brachial plexus and down the arms. The seventh cervical prominence is sometimes mistaken for the disease, especially in those people who are inclined to be weak at that location.

Direct Examination

To make a direct examination for stiffness and rigidity: Place the patient face down on the table. Stand at the foot of the table and pick up both feet of the patient and raise them high enough so that the legs will be entirely off the table, then swing them from side to side. Note the dorsal region to see if you have any stiffness there. Next stand at the side of the table, fix the dorsal region with one hand and with the other pick up both legs and repeat as above. If stiffness or rigidity is found suspect a Pott's lesion. However, if none is found then proceed still further, that is, fix the pelvis firmly upon the table with one hand and lift first one leg and then the other; with this movement you should have three inches of free movement, so if you do not have it then suspect a lesion in the lumbar region. But if you find restricted motion in one leg only, then suspect a complication such as a psoas abscess.

Now place your patient upon his hands and knees; place your hands beneath the body and lift up. Look for restricted motion or for a break in the normal curve of the spine. With this motion you approximate the bodies of the vertebrae. So if there is a Pott's lesion the crushing of the vertebrae upon one another will cause a muscular spasm, which will cause a stiffness and break the normal curve of the spine. It also very often will cause the patient to cry out in pain, especially where the degeneration is severe.

A sharp rap with the finger or with a percussion hammer upon the spinous process of the vertebra involved will bring forth from the patient a cry of pain, which shows definitely the vertebra involved. Examine the abdomen thoroughly for evidence of an abscess formation.

Have the patient stoop and pick up some article from the floor, and notice the way he goes about it. In case of lesion he will not stoop gracefully and pick it up, but will be more likely to bend the knees and hold the body erect as he gropes for the article on the floor, and then in getting up he will assist himself by placing his hands on his knees and lifting himself in this way.

Have patient jump from a chair or a stool. Evidence of a lesion here will be a stiff and awkward jump, because in this way he holds his body stiff and protects the lesion from movement. Now stand in back of your patient and ask him to look around. Notice if he turns only his head or if his trunk turns with it. The turning of the trunk with the head is evidence of a lesion here.

Diagnosis of This Lesion in Children in Arms—In this type of patient you cannot have them walk and jump, etc., so your diagnosis will have to rest upon more minute details, such as the muscular spasms, which will be of greater extent and more acute. The child will scream upon being moved or when it is having its diapers changed. The seat of the lesion is evident by a slight irregularity and a thickening in the spine as well as muscular contractures being evident.

Conclusion—To conclude, I wish to impress upon us once again a few of the characteristic symptoms of most importance: Stiffness and rigidity are of the utmost importance, as it occurs as the very earliest symptom and stays till a cure is made. Lower region, exaggerated lordosis; middle region, painful and grunting respiration; upper region, attitude of patient, showing stiffness.

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HENNEPIN AND LAKE STS.

The Journal of The American Osteopathic Association
Published Monthly by the American Osteopathic Association.
16-18 Jay Street, New York, N. Y.

Subscription Price, Five Dollars Per Annum, in Advance

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EDITORIAL

OSTEOPATHY IN TIME OF WAR

Both as individuals and groups, through their local and State organizations, osteopathic physicians are manifesting a keen interest in service to their country in the present war crisis through serving those who, as soldiers and sailors, may be actively in the country's defense. Yet, notwithstanding that the Government is appealing for medical help and that many osteopathic physicians are ready to respond to the call, they find themselves facing a condition which stands in the way of accepting their services. The Army and Navy regulations seem to contemplate just one character of service—that of the old school physician and surgeon.

Many members of the A. O. A. have written to the association offering their services and are wondering why their offer is not accepted. They, as well as the patients of osteopathic physicians throughout the country, cannot understand why the Government should not recognize the professional standing of those whose status has been widely accepted in the public welfare, and whose practice has been firmly established in accordance with the exacting requirements of scientific value. So far as concerns the large increase for immediate medical service this seems to be pretty well guarded by the Medical Defense League, which appears to have charge of recruiting medical men for the service. At present the Army and Navy may be receiving as many applicants as they need and this will be true for six months or a year, or until active hostilities begin. These recruits are graduates of allopathic medical colleges and are selected on rigid competitive examinations.

So long as the need is met through these channels it is safe to say that the Army and Navy regulations will not admit to examinations, osteopathic physicians, graduates of schools which are not recognized in these regulations. From the viewpoint of the old idea of medical efficiency the service in both Army and Navy is no doubt of the highest order. Besides, it is well organized, practically as a self-perpetuating body, because those who are in appear to have the determining decision as to who shall get in.

And yet the osteopathic profession, no less than that great proportion of the civil population which are its patients, thoroughly believe that the Army and Navy need a fair proportion of osteopathic physicians attached to it. This is no less true in the rigid training service than it is for a very large proportion of the injured, incapacitated and convalescents after the boys get into active service, through which the men will be put within the next few months. It is evident that if these men have the benefits of osteopathy, which so great a part of the civil population appreciates, that a new organization will need be founded and new lines be marked out along which this service can be rendered. Many suggestions have been made in addition to offering one's services in his individual capacity.

It has been suggested that clinics be formed to aid the men in training near the location where the camps may be established. The JOURNAL has seen announcement of such a clinic formed and conducted by H. R. Foote, D. O., in London. Others have suggested that our several colleges and hospitals form the regular hospital unit to which osteopathic physicians, surgeons and nurses be attached. Several of the colleges and hospitals have undertaken to form these units, also have offered their hospitals and equipment as base units. The Surgeon-in-Chief of the American School of Osteopathy informs the JOURNAL that they have formed the American Osteopathic Relief Association, to which already have been attached about 400 of the student body, and that the services of this Association would be offered to the War Department.

Two or three facts should be kept in mind. First, as has been mentioned, so far as drug medicine and surgery go, the Medical Department of the Army and Navy is no doubt of the highest order of efficiency. Convinced of their efficiency and unwilling to admit shortcomings or limitations in medicine and surgery, this Department will resist to the utmost the efforts of other systems to break into the service. The War Department at the present time is perhaps the busiest body of men on earth. We are not rendering our country a service if we take advantage of the present excitement to undertake merely to force an issue and gain place for ourselves where those who are guarding the gateways do not intend that we shall enter. We may simply embarrass the Department, decrease its efficiency for the time being and place upon it other burdens rather than relieve those which it already has.

On the other hand, two facts remain. Those acquainted with osteopathy believe that the soldiers and sailors will greatly need what competent osteopathic physicians could do for them, and competent osteopathic physicians are anxious to render this service. If we really believe this, and if we are willing to render this service, should not these facts be placed in the hands of the Department? This should be done both because of the possibility of securing the opportunity to render this service and because, believing that we can render this service and being anxious to render it, we should have the credit of having devised plans by which this service might become useful and acceptable and of having offered it to the Government in time of need.

In connection with the meeting of the New York State Society in New York City, May 11th and 12th, will be held a conference of those best informed as to how to proceed, and an effort will be made at that time to plan an organization which may appeal to the Government as being a practical means of permitting, if not requiring the enlisted men to have osteopathic services and at the same time interfere with the present regulation as little as possible. Whatever comes of this meeting will be reported in an early number of the JOURNAL, and in the meanwhile every member and every osteopathic physician will understand the situation and realize that without embarrassing the Government we are doing and will do everything we can to make it possible for those who are standing in defense of their country's rights to have the very best which our country can offer them in the preservation of their health and prolonging their lives.

To many inquirers it should be stated that at present osteopaths are not accepted for any form of service which recognizes them as physicians, nor in the Red Cross service. Able bodied men of military age may enlist as privates, but if the war is prolonged and a real need exists it is hoped that an organization which will result from the deliberations of the New York meeting above mentioned will be the means whereby the services of all capable and willing members of the profession, men and women, can become available.

WANTED—A PERMANENT MEMBERSHIP

The chief object in amending the by-laws of the A. O. A. at the 1916 meeting, to establish a basis for uniform membership in the State Society and the National Association, was that a permanent membership might be secured in our several organizations. Members of the profession are either in earnest or they are indifferent. They mean to stand for osteopathy and render aid to the organizations which are fighting for it, or they are getting as much as possible out of the degree given them by the college and the license which they hold from the State and are giving as little as possible to make a profession in return. When the State organization and the A. O. A. have an identical membership roll there will be no half-hearted loyalty—an osteopath will be for osteopathy or indifferent to it.

Undoubtedly one of the reasons why the State organization in the past has had an indifferent support from the profession is the expense of legislation. Many a member was fairly loyal for several years through the acute stages of legislation; then followed the no less expensive, exasperating and often discouraging period of enforcing the legislation and too many said, "Oh, what is the use?" and failed to pay dues and assessments and their State organization gets no further moral or financial support from them.

The JOURNAL believes that the State organization should make every effort to save these, and educate them to the dire needs of defending the law that has been enacted. It is not a good policy to treat their indifference with indifference on the part of the State organization. If distances are not too great it is far better to have a member call on these disaffected ones and use every means to hold their interest in what means so much to the profession. And do not wait too long to do it, do not allow the estrangement to become too great. One other thing along this line: A part of the session of each annual meeting—a small part if need be, but yet a part—should be devoted to discussing the affairs of the profession in the State. Where the size of the organization makes it possible a monthly or quarterly *Bulletin* to the members and prospective members is a means of keeping up interest, which is the basis of a permanent membership.

As to the attitude of the A. O. A., we are glad always for an osteopathic physician to "try membership" for one year, as many of them put it. We hope in that time to convince him of its value to him and no less to impress him with the need the cause has for him. But this education process on our part should not be necessary. A man or woman who has spent three or four years in a college of osteopathy should come out determined to do his share for the upbuilding of osteopathy. He should recognize the fact that he no less builds up osteopathy through union and identification with those who are striving to this end than he does through the work done at the bedside or in the treatment room.

Yet a study of the records would show that a great many come out with no such idea and no ideal of usefulness beyond what he may do in helping sick people to get well. We have great hopes that the A. O. A. auxiliaries now operating in practically all of the colleges are going to aid the schools materially in building up this professional spirit. But even granting that from this point on our graduates are alive to their duties and privileges there are, most probably, from two to three thousand practicing osteopaths without any affiliation with State or national organization. It will require no argument to convince one that the fewest number of these, even though they may be doing good work in a therapeutic sense, are of great value in building up the system of osteopathy in the community in which they live.

Therefore, what we need now to do is to turn resolutely toward an effort to get all A. O. A. members affiliated with the

State organizations and members of all the State organizations affiliated with the A. O. A. If this can be done we shall have the basis for a permanent, dependable membership, and with this as an assurance we can all—State organizations and A. O. A.—work with co-operation and confidence toward drawing into our membership those now not affiliated with either. The A. O. A. office force loses hundreds of hours of valuable time each year, and hundreds of dollars in postage and stationery, which might be saved, if members renewed their membership promptly. True, the membership of the current year has held intact better, there being far fewer lapses for non-payment of dues, than in any recent year; but even at that, the number is entirely too large and we are convinced that not more than half of those who allowed their membership to lapse intended to do so. They simply neglected every opportunity that was given them to renew. Our State organizations suffer each year to an even greater extent, because their facilities for collecting the dues are not equal to those of the A. O. A.

We feel that it is necessary to urge this upon the attention of our loyal members. We need this increased membership from many viewpoints. First, the osteopaths who are not identified with their organizations need to be members of these organizations because they can not live lives of the fullest service as physicians, nor can they be of practically any service as educators and pioneers in a new cause, without this vital identification with the cause itself. In the second place, the organizations need the numerical strength and the increased funds which these members would bring. Most of our State organizations have hard fights ahead of them. They will need more money within the next few years for legislative and defense purposes than ever before and more than they can secure unless they are supported practically unanimously by the profession practicing within the State.

We, therefore, urge a well directed plan by each State organization to increase its membership. It will not win unless the membership is well informed as to what is proposed and the need of it. Too many State organizations have lost members because of lack of frankness with the membership. Star chamber proceedings and high hand bureaucracy will not build up professional organizations. We believe a campaign of most earnest education should be undertaken by each State organization to show the profession in the State the increased need of funds and secure their co-operation toward raising the funds. Enlarging the number of members is the only way to reduce the burdens on the few. Therefore, every member should be willing to aid in securing new members.

Co-operation with the A. O. A. should help the State organizations. Although the by-law was enacted eight or nine months ago which makes it possible for the State to require that all new members in the A. O. A. from that State must be members of the State organization, comparatively few of the States have taken advantage of this privilege. The A. O. A. enacted this by-law in the interest of the State and not in any selfish sense for its own interest. For that reason the object of this paragraph is not to suggest that the States take this action, but merely to call their attention to the fact that by conforming to the by-laws, which will be found printed in the 1916-17 issue of the directory, they can have the advantage of requiring all members in the A. O. A. from their State to be members of the State organization as well.

At the present time applicants who are qualified for membership can have membership in the A. O. A. to July, 1918, upon the payment of $5, the dues for the one year. And the first applicants can secure in addition from three to six recent copies of the JOURNAL, giving them practically eighteen months' subscription for the fee of one year.

We urge, therefore, upon every member an active interest just now in increasing our membership. To do so will give the A. O. A. treasury additional funds with

which to do much needed public education work. It also makes a better osteopath, a better educator, a better friend and neighbor of the member secured. Take the new directory, which you should receive about the time this JOURNAL reaches you, and if the names of some of your friends in practice are not found therein, go after them and send the A. O. A. secretary their names and he will extend them a personal invitation to join. We urge the State organizations everywhere to take advantage of the fact that A. O. A. membership to July, 1918, and from fifteen to eighteen months of the JOURNAL can be had for the dues of one year by making application for membership now. Use this as a lever and make a determined effort to materially increase your State organization membership.

IMPORTANCE OF PROFESSIONAL MEETINGS

Within the next few weeks many of our largest State organizations will hold important meetings. The object of this note is to impress upon the profession the great individual good that will come to them through attendance and participation in these meetings. The editor of the JOURNAL has recently had the privilege of attending several such meetings, and the enthusiasm aroused and interest rekindled in those present is worth an incalculable amount, not only in the improved character of work that will be done in the treatment room and at the bedside, but in the improved morale and increased zeal of the profession. No one can spend a day or two at one of these meetings, hear and see the program and mingle with his fellows without getting an inspiration which will carry him a long ways.

Among the important meetings in the near future will be that of Texas at Houston, May 4 and 5; that of New Jersey at Newark, May 5; the joint meeting of the Missouri-Kansas Association held in Kansas City May 9, 10 and 11; that of Kentucky at Louisville, May 11.

New York State will undertake the strongest and most helpful program ever given by a State organization at the Hotel Astor, New York City, May 11 and 12. In connection with this latter meeting will be important conferences on the relation of osteopathy to our Army and Navy Department, also along the line of the Forward Movement for the increased growth of our colleges. Members of the profession from a distance interested in this army work conference are urged to be present.

Another general meeting to be held about this time is that of the Iowa Association at Des Moines, May 15, 16 and 17. Tennessee will hold its annual meeting at Memphis on May 19; Indiana at Indianapolis, May 23, and Illinois at Galesburg, May 24, 25 and 26. Special meetings will be held at Denver on June 1, and at Salt Lake City, June 4, followed by the great meeting in Los Angeles, June 7, 8 and 9. Beginning with the Tennessee meeting W. Banks Meacham, President of the A. O. A., will be a guest and address all of these gatherings. He is also expected to attend the New York meeting.

If the profession within a few hundred miles of these several meeting places will do their duty and attend these meetings, osteopathy will receive no small boost, and the profession itself will be greatly strengthened for the duties ahead.

In this connection attention should be called to the great meeting of the National body to be held in Columbus the week beginning Aug. 6. The program will be presented in the next issue of the JOURNAL. The profession can depend upon a program of unusual interest and value. The arrangements will be adequate in every particular, the hotel accommodations will be ample and at a most reasonable price, and the committees are anxious to make the meeting one of the most successful ever held.

The officers of the A. O. A. feel that this particular year when there is so much distraction, when conventions are apt to be neglected, that the loyalty of the osteopathic profession should be most seriously put to the test and urged to make any reasonable

sacrifice in order to be present at this meeting.

THE OSTEOPATHIC MAGAZINE

It becomes necessary to increase the subscription price of the *Osteopathic Magazine* on those copies which are paid for by one person and sent to others. We shall not interfere with the contracts already entered into, but the rate on such subscriptions for the future will be 60 cents per annum instead of 50 cents as heretofore. We trust the patrons of the *Magazine* who have had their friends and patients on its subscription list will give them the opportunity of subscribing for the *Magazine*. For all who wish to do this convenient subscription coupons will be sent and this class of subscriptions will be accepted at 50 cents per annum. *Magazines* may be sent to any member in bulk for his own distribution at the rate of 50 cents per annual subscription, and we will continue to fill orders to libraries, reading rooms, ministers, school teachers, etc., at 50 cents per annum.

The increase in subscription list of the *Magazine* has been most remarkable. If the osteopathic profession finds itself and does its duty along the lines of Public Education, the *Magazine* is absolutely indispensable, but it is useful only to those who use it. It is useful only where used and to the extent to which it is used. There are in every town and city a few choice spirits who are serving the community in which they live. There are many ministers and school teachers to whom it is of peculiar value, and we trust all of these within the near future will become readers of the *Magazine*, being introduced to it through osteopathic physicians.

CLINICAL OSTEOPATHY

We have another real osteopathic text! The recent addition to our professional literature is the work of the Publication Department of the Research Institute, which for the most part secured the material. This has been carefully edited and prepared by Carl P. McConnell, and the work brings to the reader his vast and signally successful experience.

The general divisions of the work discuss the following subjects: Diseases of the Digestive System, Diseases of Circulatory System, Diseases of the Respiratory Tract, Diseases of the Blood, Diseases of the Urinary System, Toxic and Constitutional Diseases, Diseases of the Nervous System, Diseases of the Skeletal Muscles and Diseases Due to Animal Parasites. Each part is divided into several chapters and these are subdivided into paragraphs by use of bold face type as subheads, which makes reference easy. Besides the book has had, which few if any osteopathic texts have had, careful and complete indexing.

The book is not only readable, by far the most readable texts we have, but it is easy of reference, which will multiply its usefulness many fold. Although the work contains about 650 pages, it is compact, much of the text which was not regarded as of the first importance to the discussion has been put into smaller type. So that for quick reference the practician can get the essentials in the shortest possible time. All helpful matter will be found for more painstaking study.

One revelation is that the first edition of one thousand copies was exhausted in three weeks and a second edition, for which plates were made, has already been ordered. Maybe the profession has finally been aroused. This would indicate it. Few events would inspire more confidence than the sale of three or four thousand copies of this wonderful work in the profession within three or four months.

Reader, if you have not a copy of this work, get it. If you have been one who complained of the lack of osteopathic texts or of the lack of osteopathic instruction in your college, get this book at once. It is the application of osteopathic principles to diseases from cover to cover. Diagnosis and treatment are the ends it has in view, not mere discussions. The material is from the experience of a hundred and fifty osteopathic physicians as contributors, whose

names are given. It is not a one-man book. It is practical because it represents the experience of so many. Order to-day from the Research Institute, 122 South Ashland Boulevard, Chicago. Price $4.00

NEW YORK CLINIC CONCERT

The complimentary concert given by the distinguished artists, Mme. Maud Powell, violinist, and Mr. W. M. Hinshaw, baritone, on April 23, was one of the big musical events of a big season in New York. As this is written the sales of seats indicate receipts of about $2,500, by far the biggest sale from any concert held in Aeolian Hall, the home of musicales in New York, the present season.

There are several lessons in this event. First, that the profession in every large city should have some institution which is worthy of public consideration, and then expect the public to give it the consideration it is entitled to. There should be some enterprise in which the profession and public can join hands and have common interest. When artists such as these, at the end of the busiest season they have known, are willing to give an evening to such an object the lesson is to the profession everywhere to boldly ask for what they feel they are entitled to, so long as what they ask for is not for their own benefit. Another lesson is that these artists, both of whom are doing concert work, are entitled to the highest consideration from the profession whenever either of them appears in concerts throughout our country. Another is that many of the best professional people in the country are friendly to osteopathy, and depend upon it, and would be willing to give their services for worthy purposes. The thing is to have something that is worthy of public support and then organize and plan to have the public aid in supporting it.

The New York Clinic is now doing a magnificent work. The cost of its upkeep is about $8,000 per year, which the profession and the Board of Directors, composed of business men of the city, are responsible for. When the profession shows that confidence and demonstrates that earnestness to serve the public it is in a position to command the attention which it has received not only in the organization of the clinic but in the success of this notable concert. The shame is that the Clinic Committee has not the support of every licensed osteopath in and about Greater New York. However, it is hopeful that the number rendering this support is constantly growing, and does not decrease as might be feared, now that the newness of the enterprise has worn off, as it is about to enter its fourth year.

ORGANIZING FOR SUCCESS

The profession in and about Boston is giving evidence of determination and business ability which deserves success. The Boston National Osteopathic Convention Association has recently been organized with the avowed purpose of securing the 1918 A. O. A. meeting for Boston. Its plans are unique and so practically worked out that we believe an outline of them will be of use to the profession in other cities.

The active membership is limited to osteopathic physicians legally registered in the State, members of the A. O. A., whose residence or office is in Boston or adjacent thereto. The dues for active members are $1 per month from the date of organization to the time of holding the annual meeting. On this basis the local profession would assess itself for about $15 or $18 each for defraying the expenses of the meeting. Associate membership includes legally registered osteopathic physicians located in New England. The associate membership dues are $1 a month for five months only, making the profession who associate with the movement in New England assess themselves $5 each, which undoubtedly is a fair and reasonable division of the expense.

The organization consists of the usual officers, board of directors and standing committees, those usually named in the handling of one of our big conventions. It is provided that the surplus, if any, after the meeting has been held and all expenses met,

shall be paid to the general treasury of the Massachusetts College of Osteopathy.

Boston is going after the meeting in dead earnest, and unless other cities are awake "The Hub" will secure a lead which it will be hard for the others to overtake.

THE 1916-17 DIRECTORY

The Directory just issued and mailed to the membership contains the largest membership list ever sent out. It registers a growth of 250 over the previous year. Let us all resolutely determine to make a net gain of 500 members before the next Directory is issued. This would be no task if the members would take this list and think over friends who are in practice and not represented in this list and solicit them for membership. If members will send the A. O. A. secretary a list of such names he will also extend them an invitation and send the necessary blanks for applying for membership.

Five hundred new members would increase the revenues $2,500 to $3,000, and this sum would be available for public education and for defending osteopathy from those who under one name or another are traducing it.

Will you, reader, not make your own membership more valuable by interesting desirable non-members in the A. O. A.?

MEMORIAL SERVICES FOR DR. HELMER

One of the striking incidents in the history of osteopathy was the memorial services for Dr. George J. Helmer, whose death was noted in the last issue of the JOURNAL, held in the Madison Avenue Baptist Church, April 22d. It is a fact worthy of note that one of the largest churches in one of the largest cities of the world gives an entire service in memory of one of its members and that member an osteopathic physician. The reason is found in the statement made by Rev. Dr. Charles A. Eaton, the pastor, in conducting the services, that Dr. Helmer had always been faithful and ready to do his duty and to serve the cause with which he was identified. Right there one finds the quality most needed in men and women at the present time of stress—dependability. Dr. Helmer, by virtue of the fact that he was one of the first osteopaths to locate in New York, with his ability and skill as a physician, his capacity for work and his uncommon good sense, made for himself a remarkable place in so great a community. His earnestness for osteopathy was no less in evidence than his earnestness in the church, which brought about this testimonial service. The decorations of the church and the large attendance no less than the tribute paid by the pastor were evidence of the high esteem in which he was held.

Osteopathic physicians can get much encouragement out of what life brought to Dr. Helmer. He won recognition and a name as physician and citizen in the big community in which he resided at a time when his profession was almost unknown and without legal recognition in the State. He won it because he had correct ideals and followed them unflinchingly. The following resolutions, unanimously adopted by the Osteopathic Society of the City of New York, will be read with interest by his friends and the profession generally:

To his many patients, friends and fellow workers in the osteopathic profession the announcement of the death of Dr. George J. Helmer came as a painful shock. To a smaller inner circle of more intimate friends and relatives his passing was not unexpected. He anticipated the end, and met it bravely with fortitude and patience.

We, his associates in the practice of a new system of healing, desire to express an appreciation of the life and labor of our friend. He had arrived at the age of mature manhood when the earliest of his fellow practicians first met him. To him had come the high honor of introducing osteopathy to the people of the Eastern States. He was in truth the pioneer osteopath of the East and delighted to call himself so, and to his great credit be it said he was a worthy herald of a great science of health and healing.

Unknown and alone he lifted up his banner before the host of doubters, and felt the scathing scorn and ridicule of an opposing, critical, entrenched school of practice, who resented his entrance into its age long pre-empted field. With a courage born of the deep conviction of the truth of his cause he made his defense with dignity,

and established the strange new tenets of the system he so ably represented.

His rapid success was beyond his own expectations, and to him we owe more than to any other individual our gratitude for the high plane osteopathy has always occupied here in the East. He believed in and practiced the pure and simple principles of healing discovered by Dr. Andrew Taylor Still. He never deviated therefrom, was never tempted by spectacular adjuncts, nor did he revert to the traditions of generations of drug givers and consumers. He upheld the sacredness and dignity of his high and honored profession by self sacrifice and conscientious endeavor and by establishing a standard of remuneration, in a measure commensurate with his services.

His influence and extraordinary success in his profession was the cause, direct and indirect, of more individuals entering the practice of osteopathy than perhaps that of any other single practician.

He was a member of the American Osteopathic Association from its organization, also a charter member and one of the organizers of the N. Y. O. S., and had the honor of being its first president. He was a member and an inspiration to this society since its organization; also one of the organizers of the New York Osteopathic Clinic and a member of its Finance and Rules Committee.

Therefore, be it Resolved, That for these services and accomplishments and for the high standards in professional and private life, we owe him a deep debt of gratitude; that a copy of these resolutions be sent to the bereaved family; that they be transcribed in the minutes of the Osteopathic Society of the City of New York and that they be suitably published.

Committee:

Dr. Chas. F. Bandel — Dr. Chas. Hazzard
Dr. W. L. Buster — Dr. W. A. Merkley
Dr. Chas. E. Fleck — Dr. Chas. H. Whitcomb
Dr. C. F. Fletcher — Dr. G. W. Riley, Chairman.

Dr. McCONNELL'S DISCUSSIONS

Back Injuries

The following quotations are selected from McKendrick's little book on back injuries. His clinical work is based on an extended experience in this class of cases. The examination of several thousand radiographs has been of special value in arriving at certain conclusions. The intervertebral discs act as shock absorbers, he says:

> And at the same time permit of movement between the vertebrae. In fact, all the movements of the spinal column occur through the medium of this rubber-like substance. The so-called joints between the bodies of the vertebrae are not like most other joints of the body, in which a sliding movement of the joint surfaces occurs. In the intervertebral joints, movement is only permitted to the extent of the flexibility of the rubber-like intervertebral discs. This is a mechanically perfect arrangement, and the structure of the discs themselves is no less so. * * * It will be seen that the structure of the disc is admirably adapted to minimize "jarring" of the vertebrae, and at the same time to allow a degree of relative sliding movement between them. It will be seen that sprain of such a joint would be an unlikely injury. The so-called sprain of spinal joints is most frequently met with in the cervical and in the lumbar regions of the spine, where the discs are thickest, and the movement therefore most free. It stands to reason that any sprain which might occur would damage the inelastic or unyielding fibrous tissue in the vicinity of the joints. Such a lesion would therefore extend over several spinal joints. * * *
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> At birth, the spinal column is more or less of this shape (a curved chain of bones with its convexity directed backward), but as age advances, and the child begins to hold up its head, the intervertebral discs grow in such a manner that a curve is developed in the cervical region with its convexity directed forwards. As the child sits up and begins to walk, a curve is developed in the same way in the lumbar region of the spine, with its convexity forwards. The movements of the spine occurring as they do through the medium of the intervertebral discs, are naturally most free in the cervical and lumbar regions. The intervertebral discs in the dorsal region do not alter the curve of this region, and so this is called a fixed curve. It is readily really more or less fixed so far as antero posterior movement is concerned. ***
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> After adult life, and as age advances, the intervertebral discs gradually become more and more fibrous [In some of these cases caerfully graduated traction is of definite osteopathic value—Editor] and tend to disappear. The spine gradually loses its lumbar curve, and to some extent its cervical curve; in fact, it goes back to the original condition of one big curve with its convexity backward. The center of gravity being thus altered, the old man must stand with his knees and hips bent in order to maintain his balance. So great may this curvature of old age become that, in order to maintain the balance, two walking sticks must be used to support the upper part of the body. In rheumatoid affections of the spine, and after compression fracture in the lumbar region of the spine, a similar condition obtains in a minor degree.

I have quoted the above well known facts for the sake of clinical emphasis, for at times probably all of us are apt to neglect their significance. In our zeal to adjust damaged and maladjusted structure we may overlook two or three important features: The importance of function over that of structure, or rather what we may term perfect alignment; the necessity of rest in acute injuries until considerable of the inflammation has subsided, and then to be fol-

lowed by traction and gradually increased motion; the importance of recognizing that conformation and configuration of the spine varies from infancy to old age. This last point is true of the normal spine. But there are many abnormal conditions with various gradations wherein the spine never approaches the typical one.

Metabolic conditions, delayed development, vicious exercises and postural habits, in addition to many typical osteopathic lesions, are certain to markedly influence one's diagnosis, prognosis and technique. I am certain that at times all of us overlook some of these features and do a certain amount of unnecessary, and perhaps illy-directed, work. In other words, we may overlook the importance of organic unity or harmoniousness of the entire mechanism. Of course, a part can not be greater than the whole nor an isolated lesion overshadow extensive regional malformations (though in certain instances they may be of dominating importance). Naturally great care must be exercised in distinguishing between cause and effect. Mere mechanism must not be exaggerated at the expense of organic regulatory forces. Mechanism *per se* is only a method of establishing organic unity; or, to employ a well known technical term, teleology.

* * * Any vertebra may be displaced backwards on the vertebra below it, but before it can be displaced forwards one or both of the articular processes must be broken or the joints dislocated. * * * In the cervical region, the upper articular facets are directed more upwards and backwards. This arrangement allows of greater rotation of the cervical vertebrae, but on the other hand it makes it easier for a dislocation forwards to occur, even without a fracture of the articular processes themselves. In order to produce such a dislocation the cervical spine must be subjected to a form of violence which would forcibly bend it beyond due limits before the rest of the spine could be bent. Such a combination of circumstances would obtain, for example, where forcible overbending occurred, and when the line of violence fell in a plane posterior to the lumbar vertebrae.

The writer has recently seen three cases of dislocation of the cervical region of the spine and in no case were there any symptoms to indicate that the spinal cord has been damaged. In all three cases the dislocation occurred between the second and third cervical vertebrae. In two of these cases the injury was produced by a sack of grain falling onto the back of the head while the person was standing with the head bent forwards. The other case was peculiar in so far as the dislocation occurred in a most natural way. The patient was standing, and a friend tapped him on the shoulder from behind. He suddenly turned round his head to see his friend, and it has been ever since fixed in its dislocated position. The X-Ray examination in each case showed the dislocation, but did not reveal any fracture of the articular processes.

It is easy to see how it is possible for a pure dislocation to occur here, although it is generally taught that dislocation without fracture is impossible. The articular facets of the two vertebrae in this region are opposed to one another, just as two coins might lie one on the top of the other. In the normal position of the cervical region, the facets are flat together, with their edges coinciding. As the neck is bent the facets slide over one another, so that there is less of their surfaces in contact. A point is reached where the capsular ligaments which extend between the circumferences of the facets are overstretched. Usually the violence is not absolutely in the antero-posterior plane, and if the violence continues to act, the capsular ligament gives way on one side, and the facets slide past one another just as two coins might do.

This is very interesting corroboration of the osteopathic claim that various degrees of dislocation and subluxation may occur without any fracture. If it is possible for complete dislocation to occur without fracture it is certainly true of the innumerable partial dislocations. The author speaks of the damage to the overstretched capsular ligament. This is specially interesting to me. For several years this is one point I have particularly emphasized in the results of my experimental work. In artificially produced lesions I constantly find the greatest damage to the capsular ligament. One should remember here that direct violence is the traumatic injury, and it is carried to a point beyond normal physiologic movement; that is, beyond the action of muscles, and necessarily the capsular ligament is certain to be damaged. Various degrees of movements and gradations of injury are possible. Now this should not be confused, as we shall shortly see with another class of lesions that also involve the integrity of vertebral movements; viz., muscular, although no doubt the two are often combined.

It is just this class of injuries, the ligamentous ones, that require specific tech-

nique. The adjusting force must be exactly applied in order to obtain the maximum of results for releasing and removing the effects of the damaged ligaments. Here is one place where osteopathic etiologic-diagnosis is commanding. Many osteopaths when adjusting certain osseous lesions of the neck, hyperextend the neck at an angle; that is, elevate the chin at an angle more or less in line with the hyperextended and slightly rotated vertebrae, employing the whole as a power arm. Of course, the fulcrum must be carefully localized at the interosseous lesions. There is an excellent reason for this: the force of the technique is brought to bear upon the involved capsular ligament, just as soon as muscular contraction is overcome, and separation of the articular surfaces follow. No doubt, mere neck "popping" will abuse this excellent method. For unless the leverages are carefully localized, weakened and atonic tissues will first give way and the resultant "pop" is of no adjustment value. In fact, a hypermobile vertebral joint is very apt to be compensatory to a nearby rigid joint.

There are several reasons why the articulations between the second and third cervical vertebrae should be the commonest site of dislocation in the neck. (1) The intervertebral disc is shallower than any of the other cervical discs. (2) The movements in the upper cervical region are peculiar. Between the skull and the first cervical vertebra flexion and extension are the principal movements; between the first and second, rotation only occurs; between the second and third, the movement is limited in all directions; between all the other cervical joints movement is free in all directions. (3) The forward flexion between the second and third is checked by the long projecting anterior lip of the inferior surface of the second cervical vertebra. It should be noted that when the neck is moved in any but an absolutely antero-posterior direction, the articular surfaces slide on one another in an oblique fashion. The upper facet on one side goes upwards and forwards, while the upper facet on the other goes downwards and backwards.

Every osteopath is well aware that this is one of the regions where lesions are very common. And it goes without saying that what we commonly understand by traumatic injury or violence is not the most usual cause of the lesions. Muscular imbalance through cold and infections, probably through lack of tonicity of certain muscles, postural habits, fatigue and exhaustion, etc., all will produce an unbalanced muscular tension, as well as violence, sprains and strains. This distinction is necessarily somewhat arbitrary, for the effect is largely one of degree, still it is essential in order to understand the many possible factors productive of lesions. Reflex irritations, septic foci, intestinal toxins and abnormal shifting of the line of weight are other contributing factors. All of this bespeaks the necessity of careful diagnosis locally and a comprehensive viewpoint of the entire body mechanism.

It will be shown that any object is mechanically weak if it contains the junction of an inelastic with an elastic portion. There are three such junctions in the spinal column. (1) The freely movable cervical region with the much less movable dorsal region; (2) the freely movable lumbar region with dorsal; (3) the movable lumbar with the sacrum.

Some of the older osteopaths will probably recall that Dr. Eckley, the anatomist, constantly emphasized the importance of "anatomical weak areas"; that is, where there is a "break in the continuity of structure." This is not only true and of practical value in mechano-anatomical structures such as joints, but in various parts of the body, such for example, as the junction between skin and mucous membrane and the junction of fibrous tissue with muscular. McKendrick refers to other weak areas, such as a weakness at the junction of curves, at the junction of two movements, constrictions of areas, for example, the fourth dorsal, etc. No doubt, to the osteopath all of these are regions that predispose to osteopathic lesions. They are at a mechanical disadvantage when imbalance of muscular action is rampant or the physiological limits of function are exceeded. The author presents a diagram showing that the spinal column is not of the same thickness in its entire extent, as is well known. There are four pyramids. The two lower have their bases together at the junction of the fifth lumbar. The

upper pyramid gradually narrows to the fourth dorsal, wherein is superimposed the narrowest part of the third pyramid, inverted, which gradually broadens to its base at the seventh cervical. Upon this third is placed the base of the fourth pyramid, which gradually narrows to the first cervical. This will no doubt recall to a number of osteopaths a diagram of similar pyramids that Dr. Still depicted twenty years ago. All of this assists in explaining why certain areas predispose to lesions.

"Strain" may be taken to mean an overtasking of any tissue of the human body beyond the physiological limit. It is an axiom in mechanics that strain is proportional to stress. In this sense, strain is the deformation produced in any substance, and stress is the force which produces that deformation. Here the force is external to the body acted upon. In medico-legal work the large majority of cases of strain are of muscle. Now, in strain of muscle the force is exerted by the muscle itself, so that in this connection the term strain has even a wider significance than it has in ordinary use. * * *

As applied to joints, the terms strain and sprain are used indiscriminately to denote an injury produced by a twisting form of violence, although there is a tendency to restrict the term "sprain" to a condition where damage to ligaments can be diagnosed, but where, as the result of a twist, mild synovitis is set up in the joint, the condition is spoken of as a strain. (Here also ligaments are likely to have been damaged, and a strain might be considered as a mild sprain).

Strain of fibrous tissue (ligaments, etc.), is easy to understand. It is purely a question of the tissue being stretched beyond its physiological limits. Strain of muscle, on the other hand, is a much more complicated problem. Every golfer is familiar with the muscular strain associated with a missed tee shot. On the other hand, a muscle may be strained in the attempt to lift an excessive load. It has already been said that where there is a disproportion between the work to be done and the power to do it there is excessive stress on the muscles involved.

The author points out another form of strain of muscle; that is, strain produced by prolonged stress. Then a fatigued muscle is much more apt to be strained or ruptured than a fresh muscle. "Strain of muscle may be looked upon as a minor degree of rupture. In weakened or degenerated muscle, it is conceivable that the lesion might be amongst the muscle fibers. In health, the probability is that any lesion which occurs in muscle as the result of undue stress is situated at the weak spot, viz., the junction of fibrous tissue and muscle fiber, or in the fibrous tissue alone."

Now, a sprained joint of the back is quite identical with that of any other sprained joint, and even the layman readily sees the logicalness of osteopathic treatment in these cases. But, of course, in osteopathic work there is still a huge field outside of traumatic back injuries, wherein the muscles are abnormally tensed, even contractured, ligamentous tissue involved and osseous segments malaligned. These are the cases that arise through over-fatigue, over-work, temperature changes, reflex disturbances, metabolic disorders, toxic effects and infections. Thus the causes are mechanical in some, circulatory (nutritive and chemical) in others, and of nervous origin in still others. They comprise both primary and secondary changes, predisposing and exciting, etc.

The gradations of mechanical effects are numerous, the same as with the other pathological changes. In so far as the osteopathic lesion is concerned, there must necessarily be a huge variety. The slighter ones of muscular contraction and imbalance are usually easily adjusted by simple muscular relaxation. If the softer tissues are more or less permanently changed pathologically the problem is a different one. To regain normalization, technique must absolutely depend upon the pathology. Even many of the osseous malalignments are certainly within the confines of physiological movements, for to carry the movements beyond the confines would mean damage to ligaments. And no doubt some of the most obstinate lesions are anchored within the confines of normal movements by pathological processes, that require skill and persistency in order to normalize. The rigidness and malalignment are only part of the process or disease picture. These statements are made for the purpose of orientation rather than of criticism.

This suggests the importance of "general treatment." Among the results to be secured are a normalization of the entire

mechanism through both relaxing and toning the muscles and removing ligamentous tension. Thus a more harmonious organic *unity is obtained. Another important result is that of restoring nervous equilibrium. All of this, of course, has its effect in establishing vascular equalization and chemical co-ordination. Then a certain general treatment is ofttimes excellent preparation for the detailed specific adjustment. Through relaxing and stretching technique many lesions are adjusted; that is, those confined within the limits of normal physiologic movements by excessive or abnormal muscular tension. Indeed, the "grasp" of excessive muscular contraction, the same as with some contractures, may simulate adhesions. Here we approach the dividing line between general treatment and specific adjustment.

Strain of muscle is a localized lesion, and is definitely circumscribed. It usually occurs at the junction of muscle fiber with fibrous tissue. The pain complained of is usually localized to the site of the lesion, but may extend for some distance beyond it. The tenderness, however, is distinctly localized. This is not so with "infections" of muscular tissue, where the pain and tenderness are more generalized. * * *

After a long experience in the examination of miners' backs, the writer is of opinion that a great many of the so-called "racks" are complicated by infection from some part of the alimentary canal. Some of them are even cases of pure and simple lumbago, but how are we to get over the difficulty of accident as a cause? The infective affections may be as sudden in their onset as the traumatic. In fact, lumbago usually commences so suddenly, during the performance of some simple movement, that it has been questioned whether it could possibly be due to a pure infection. Bacterial or toxic invasion, and suddenness of onset of pain, however, are not incompatible. Most of the acute infectious diseases commence suddenly, just after the incubation stage of the causative organism has passed, and the toxins are being liberated. The pain associated with any acute infective process is fairly sudden in its onset, and, if the tissue involved happens to be voluntary muscle, it is easy to understand why the incidence should be abrupt. * * *

There seems to be no doubt that this toxic element is a potent factor in prolonging the convalescence from the majority of these minor back injuries. The relative part played by trauma and by toxins is often evidenced in the history of the case. When a muscle is mechanically strained the pain is sudden and the loss of power correspondingly immediate. When a muscle is "pathologically" or "toxically" strained, if we might use this term, the pain may be sudden, but it is not usually so severe. It is not necessarily incapacitating at first, although it may become so later.

In a large number of so-called strained backs, the history points to toxicity as the exciting cause, and to strain as only a possible predisposing factor.

Every osteopath of experience will readily agree that toxins and septic foci play an important role in the production of spinal lesions. This is shown, for example, very readily in cases due to intestinal toxins where the patient is fasted for three or four days. It is surprising how many of the muscular contractions disappear, and render the deeper seated lesions much easier to normalize.

I am not trying to deny that there is muscular strain, but rather pointing out the small part which mechanical strain plays in the production of the lesion in some cases of ordinary muscular action, when the muscles are perhaps a little tired, as they are bound to be toward the end of a shift. * * *

A simple strain of muscle, with its sudden pain and disability, is mechanically produced, and only requires mechanical treatment, viz., rest. Recovery should be complete in two or three weeks. If, on the other hand, the history is suggestive of the presence of toxins, the prognosis and treatment are markedly different.

I wish to refer to the damaged ligament in sprain again, although the reader should remember that this is far from being the only cause of osteopathic lesions. "Damage to ligament is due to the overtaxing of a joint whose range of movement is limited by ligament. The ligament on the convexity of the bend if mechanically torn or overstretched; this is followed by an effusion of blood into the tissues surrounding the joint, and probably into the joint itself." We can see how effusion of blood may add to the pathologic picture. But in the more common osteopathic lesions anatom-

*The importance of maintaining the unity of the organism, many of us are apt to think, is of recent origin. Indeed, considerable of present-day therapeutics would lead one to think that this biological principle is far from being clinically appreciated. It is the relationship of the parts to the organic unity or organism that should never be lost sight of. Both Hippocrates and Galen insisted upon this point. Note particularly Galen "On the Natural Faculties."

ical and physiological knowledge must be requisitioned into service for explanation of considerable of the clinical variation of a series of cases, depending upon the character of pathological involvement. Then in addition to circulatory and nervous disturbances, we must not overlook infections and toxins.

A writer in a recent issue of *American Journal of Medical Sciences* conducted a series of experiments on animals wherein he shows how infections of the spinal joints, owing to more or less extensive involvement, may result in various lesions of the nerves. If the reader will take his articulated spinal column and demonstrate a rotary lesion, say, in the dorsal region, for example, he will readily appreciate this pathologic point. I have spoken of it and described it so many times in my reference to experimental work that I am reluctant to mention it again, still it is unquestionably a basic point. This is exactly what happens in experimental work on animals, although rarely do we carry the damage to the above extreme. Of course, a vertebral lesion of this character is an interosseous lesion, and in so far as the mere mechanics are concerned can be as easily demonstrated on the skeleton as on the living subject.

Take a rotary lesion between the fourth and fifth dorsals. This really means that the spine from the fourth upward is rotated on the spine from the fifth downward. Localize your point, fifth, and utilize the upper spine as a lever; then by flexion and traction followed by the combined movement of side bending and rotation the leverage is carried to the point of "giving." Every student is conversant with the significance of the phases of the compound movement of rotation and side-bending. After the lesion has been produced, where the upper spine has been carried to your right when you are standing back of the subject, it is apparent that the spinous process of the fifth is toward the damaged capsular ligament, and the fourth in the opposite direction, while the left transverse process of the fourth is prominent. If the parts are not much damaged and stiffness does not extend to contiguous segments, a reversal of the movements might suffice for adjustment. But commonly we prefer a preliminary loosening and "exaggeration." Then with the spine hyperextended to the point of "neutralization" of anterior and posterior spinal muscles, accompanied with a little traction, a quick thrust upon the left transverse process of fourth will usually adjust. However, much depends upon the pathology. And there are other excellent technique methods.

Rest is essential in muscle injuries, whereas movement is strongly indicated in the case of damage to ligament. In sprain, forcible movement should be persisted in, in spite of the pain which will be produced thereby. This will produce a more rapid removal of effused blood, and there will be less chance of ultimate stiffness if this treatment is adopted. * * *

Where the injury has been to the bones or joints of the spine, "jarring" of the spinal column will be productive of pain. A word of warning is here necessary on the manner in which this test is to be applied. Do not rely upon the results obtained by placing the hands upon the patient's shoulders and suddenly applying a jarring pressure. This procedure may give rise to pain, when the vertebrae and intervertebral joints are perfectly healthy, if the muscles about the chest wall are tender. The best method is to get the patient to rise on his tiptoes and suddenly to come down on his heels. This will give rise to pain if the lesion is about the vertebrae or intervertebral joints.

In all cases of injuries, even comparatively slight ones, the author strongly advocates the X-ray. A fracture may be easily overlooked, clinically. And various diseases of the spinal column are far from rarities. Developmental defects of the fifth lumbar are very hard to diagnose. An interesting section is that of dynamics. The entire book should be of special interest to osteopaths.

C. P. McC.

NOTE: On page 1106 of April issue in paragraphing Dr. McConnell's Discussion, the introductory lines to a "Curious View of Osteopathy" should have been a comment at the end of that quotation and not made to refer to the entire paragraph.—EDITOR.

DEPARTMENTS

EDUCATIONAL

JENNIE A. RYEL, D. O., Editor,
Hasbrouck Heights, N. J.

The New Health Teaching Department of the Osteopathic Magazine was opened last fall in order that profession and lay readers might have a forum for discussion of those phases of health teaching which are of common interest and with the hope that by co-operation we might build up greater appreciation of the importance of knowing and obeying Nature's laws concerning our own bodies and find an attractive way to teach the needed facts. To a certain extent, the department has answered its purpose. Lay readers have asked earnest questions which the department editor has attempted to answer. So also have the members of the profession. But as we learn more of the work that is being done in the way of public education we are finding a gratifying number of practicians who are meeting and improving opportunity to do lecture work, and we desire to solicit more of this work for publication in the department.

In the June number of the *Magazine* there will appear a paper read recently before an assembly of mothers, a paper which we believe will be helpful both to lay and professional readers of the *Magazine*. From the standpoint of subject matter we are glad to be able to print the paper, but more than that, the receipt of that manuscript marked the entrance of the Department into a new epoch. It was for this that it was created. If we will get together, each giving our bit, we can make to this cause a genuine contribution. May we not hear from others who have done such work

With your A. O. A. Directory you are receiving a blank to be filled out and returned to me. It is such a short task it will make very little difference to you when you do it, but your promptness will be greatly appreciated by us. You want an efficient organization for Public Education purposes, and it happens that the one thing which you can do just now to be most helpful is to fill out and return immediately the blank which you receive. We desire the most complete report possible. The simplest way to get it is the one we are using. If you fail to do your part it means that we must turn the work over to the States and unnecessary time and postage be spent to get the report.

We have a tremendous opportunity if we will get ready to make the most of it, and in order to get the best co-operation we must first know our field. The purpose of the canvass is to provide the knowledge.

MENTAL THERAPEUTICS

G. H. SNOW, A. B., D. O., Editor.

PSYCHOLOGY—SUGGESTION

This series of articles would not be complete if the subject of suggestion was omitted. Under the title "Suggestion" is included magnetism, mesmerism and hypnotism, for these are only different names of the different degrees of suggestion of which hypnotism is the most profound. We must go back several centuries if we would take the history of suggestion from its beginning.

The ancient Egyptians, Greeks and Romans were familiar with some of its manifestations, and in remote ages the Yogi of India employed methods of auto-suggestion. The ancient Greek physicians used hypnotism for therapeutic purposes. About the end of the Middle Ages efforts were made to explain from a scientific basis this so-called "mysterious power," and at the present time it is receiving more attention than ever and a few facts have been obtained concerning it.

Munsterberg in his discussion of special methods says: "We know hypnotism in most various degrees; the lowest can be reached practically by every one, the highest by rather few. It is almost arbitrary to decide where those waking states with high tension of suggestion end and the hypnotic states begin, and not less arbitrary to call the higher degrees only hypnotism and to designate the lower degrees as hypnoid states. If we do it we certainly should acknowledge from the start that the hypnoid states are for therapeutic purposes not a bit less important than the full hypnotic states. Certainly the hypnoid states do not allow complex hallucinations and absurd post-hypnotic actions, but they offer excellent starting points for the removal of light obsessions and phobias and for the reinforcement of desirable impulses, volitions and emotions."

In his chapter on suggestion and hypnotism he says: "Thus suggestibility is really a practicable factor in every walk of life * * * Yet the psychologist must insist again that no new principle is involved, that even in the strongest forms of suggestion, in hypnotism, nothing depends upon any special influence emanating from the mind of the hypnotizer or upon any special power over from brain to

brain but that everything results from the change of equilibrium in psycho-motor processes of the hynpnotized, and thus upon the inter-play of his own mental functions. Many persons cannot under any circumstances be brought beyond such a hypnoid degree. The physician who has not theoretical experiments but practical success in view ought therefore never to trouble himself with the inquiry exactly which degree has been reached. This advice is given because nothing interferes with the progress of hypnotic influence so badly as the constant testing."

The hypnotic experiment is certainly an effective means for the discovery of many psycho-physical facts which cannot be studied under ordinary conditions. Each operator has his special method of producing the hypnotic, mesmeric or magnetic state just as the individual osteopath has his special way of reducing bony lesions. One of the simplest is to have the subject comfortably seated and thoroughly relaxed and have him think of nothing, but the desired hypnotic state. Or in other words, the subject must completely submit himself to the wishes of the operator. Some operators hold a bright object before the eyes of the subject and have them gaze steadily at it. Other operators make passes with the hands before the subject or stroke the head or hands. With the trained subject any method works well that has frequently been used; subjects have often been hypnotized over the telephone, the operator and subject being miles apart.

Some operators are more successful in getting control of their subject than others. Brenheim claims that one has not learned to correctly operate who does not hypnotize 80 per cent. of his subjects. Very much depends upon the operator's ability to read human nature so as to be able to choose the right time and things to suggest to suit the peculiarity of the individual subject. All races and ages except infants are susceptible to hypnotic suggestions. It is hard, more often impossible, to hypnotize the insane, idiots or very young children, the reason for this being that they lack the power of attention, which is necessary to place them "en rapport" with the operator.

Various means are employed to awaken a subject from the hypnotic state. Anything awakens which the subject has previously been informed will be employed. Some operators awaken their subject by simply saying, "Wake up." Others blow upon the eyelids of the subject and still others set a definite time at which the subject will awake.

To account for the different methods of hypnotism of different schools some writers say that the first operator observed certain things in his first subject. This led him to look for and expect the same manifestation in his second subject. This expectation acted as a suggestion on the second subject and produced the looked-for manifestations. Or, in other words, in one sense the first subject educated the operator and after that the operator educated his subject.

These are the main theories concerning hypnotism:

1st—*ANIMAL MAGNETISM*: The advocates of this theory hold there is a direct passage of force from the operator to the subject. The operator makes passes over the subject or gently pats him to transfer the magnetic force from himself to his subject. After the magnetism has been applied the operator can, to a certain extent, command his subject and make him do things he thought he could not do. For instance, make a person who was so crippled with rheumatism that he thought he could not walk get up and walk. The theory of animal magnetism is now held by only a few and that to explain a certain few phenomena.

2d—*THE NEUROSIS THEORY*: The advocates of this theory hold that the hypnotic state is a peculiar pathological condition produced by a special physical agent in persons who have a peculiar susceptibility. In predisposed persons this cataleptic or hypnotic state may be produced by a very loud, unexpected noise or very bright light. In this hypnotic state the body offers no resistance to movements and it retains the position in which it is placed by the operator. There is anesthesia of the entire body. The eyes remain open. The state of lethargy can be produced by forcibly closing the eyes. In this condition a hyper-excitability of the nerves and muscles is present, and the operator, by stroking gently with his hand, may produce a tonic contraction of the muscles. Open the eyes of the subject and he returns to the cataleptic state. If only one eye is opened one-half of the body becomes cataleptic, while the other remains in the lethargic state. Friction on the head while the subject is in either the cataleptic or lethargic state will cause the subject to pass into the somnambulistic state. Friction on the head in the region of the speech center will produce aphasia.

3d—*THE SUGGESTION THEORY*: According to this theory every individual is susceptible to hypnotic influence, and this theory seems to be quite generally accepted in preference to the two preceding theories. To a greater or less extent suggestion plays a part in all the relationships of life. It has a place even in the ordinary, common, everyday affairs of life. Some say it is probable that we all transiently pass through the hypnotic state whenever we fall asleep. Or, in other words, the hypnotic state is an

intermediate state between being thoroughly awake and soundly asleep, and it is the work of the operator to keep his subject in this intermediate state. A hypnotized subject, if left to himself, will either wake up or fall soundly asleep. Note eight of the interesting and peculiar symptoms of the hypnotic state:

1st—*The suggestibility of the subject.* He believes everything told him while in the hypnotic state and acts as if it were true whether it be so or not. For instnce, on a warm summer day the operator may tell him it is very cold and he will shiver just as if he was cold. He may be told that some ill-smelling thing, ammonia, for instance, is lovely perfume and he acts just as if it were so. Then again, things over which normally he will have no control take place, such as sneezing. But there is a limit to the suggestibility when the question of morals must be taken into account, for one will not do in the hypnotic state anything beyond what he would do when awake and free from the hypnotic state.

2d—*Amnesia*: The subject remembers what happens in the first stages of the hypnotic state, but when in the more profound stages there is complete loss of memory of what is said or done. But if told while in the hypnotic state that he will remember what has occurred he will then be able to recall all that has happened. The lack of memory seems to be due to lack of association between the performance of the hypnotic state and those of the waking period.

3—*Effects of the voluntary muscles*: If the operator tells his subject that he cannot close his eyes, lower his raised arm and many other similar things, he is unable to do them. This effect is produced by the involuntary contraction of the antagonistic muscles.

4th—*Delusions and hallucinations*: These are the things that are so often used in public exhibition and are of every conceivable kind. The subject may be made to act as if his personality was changing into that of a baby or even into that of an animal and he will walk around on hands and feet in imitation of a bear. Again he is an orator or some great man delivering an address. In discussing these things James says: "He takes the text from his operator, but he may amplify and develop it enormously as he acts it out. His spontaniety is lost only for those systems of ideas which *conflict* with the suggested delusion. * * * In extreme cases the mind would seem to be actually abolished. * * * But the reign of the delusion is often not as absolute as this. If the thing suggested is too intimately repugnant the subject may strenuously resist. The conflicting ideas slumber in the background and merely permit those in the foreground to have their way until a *real* emergency arises; then they assert their rights."

5th—*Real sensations may be abolished or false ones suggested.* The sensation of hunger has been abolished so the subject took no food for fourteen days. The most painful experiences may be undergone without any anesthetic than the hypnotizer's assurance that no pain will be felt. Surgical operations have been performed and teeth extracted in this way. The tests made along these lines show that the subject did feel the pain but did not perceive it or actually ignored it. Binet and others have shown that the ignored things are preserved in a split off portion of the subject's consciousness, as it were, and under certain conditions may be made to manifest themselves.

6th—*Hyperesthesia of senses*: This is quite as common an experience as anesthesia and may be that of hearing, sight or of weight. Bergsen gives an instance of the hyperesthesia of sight in which it seemed that the subject was reading through the back of a book that was held and looked at by the operator, but it was really proved that the subject was reading the image of the page reflected on the operator's cornea. A certain coin may be picked out from many others and the subject says that he tells which one it is by its weight.

7th—*Changes in the nutrition of the tissues*: Delboery annulled by suggestion the effect of a burn; other experiments have been performed which show that congestion may be produced or a blister raised. These effects lead into therapeutics and I would like to give other examples, but space will not permit.

8th—*Post-hypnotic effect*: These deferred suggestions are given and may occur even a year after they are given. The time for them to occur may be left for the subject to measure or they may occur at a given signal. James says "the only really mysterious feature of these deferred suggestions is the patient's absolute ignorance during the interval preceding their execution that they have been deposited in his mind. They will often surge up at the pre-appointed time, even though you have vainly tried a while before to make him recall the circumstances of their production. The most important classes of post-hypnotic suggestion are, of course, those relative to the patient's health—bowels, sleep and other bodily functions." The mechanism by which the deferred suggestion is retained until the time of its execution is a mystery that has been much discussed and some experiments have been performed which seem to prove that it is stored up in consciousness, but the part of consciousness which retains it is dissociated from the rest of the mind.

All the above facts emphasize the import-

ance of suggestion and show that the hypnotic experiment is certainly an effective means of discovering and studying many psychological facts which cannot be studied under ordinary conditions. It also appears as if hypnotism contains many possibilities along therapeutic lines.

OPHTHALMOLOGY

C. C. Reid, D. O., M. D., Editor,
Denver, Colo.

DISEASES OF THE CORNEA

For many months we have been considering diseases of the conjunctiva. This subject has by no means been exhausted. These articles are written to cover only the commoner diseases of the eye which should be of interest to the general practician or one just beginning to specialize. This same plan will be followed on the other parts of the eye. Diseases of the cornea take almost as varied forms as diseases of the conjunctiva.

Anatomy

To get any grasp on diseases of the cornea and their relative importance it is essential to have a good knowledge of the anatomy and how it is nourished. Only a little review will be given here. For more detail one should refer to any of our complete anatomies.

The cornea with the sclera forms the outer coat or tunic of the eye ball. The cornea is in front and forms one-sixth of the envelope. It is a segment of a smaller globe than that of the sclera. It is about 12 m.m. horizontally and 11 m.m. in the vertical diameter. Its thickest part is at its junction with the sclera, where it is about 1 m.m. This junction is called the limbus. The cornea is inserted into and rests on the sclera like a watch crystal. The fibers of the cornea pass continuously into the sclera, however. The normal cornea is transparent. Most morbid changes of the cornea cause a diminution in this transparency. In old age a narrow gray line near the corneal margin makes its appearance. This is known as the *arcus senilis*. There is a little strip of perfectly clear cornea between the arcus senilis and the limbus.

The cornea has five layers. These layers should be noted with care, as in wounds of the eye, foreign bodies in the cornea and ulcerations, the results depend much upon which layers are affected

1. The *Anterior epithelium* consists of pavement cells of several layers. This layer of the cornea may be damaged or scratched off in large patches and still it will heal readily, leaving no trace of the injury.

2. The *Anterior elastic lamina* or *Bowman's membrane* is very thin and homogeneous; it is just beneath the epithelial layer and forms a resisting sheath to prevent damage to the next layer.

3. The *Stroma* or *Substantia propria*. This layer composes about nine-tenths of the cornea. It is composed of minute connective tissue fibers, between which lie some stroma cells or corneal corpuscles. Some of these cells are fixed, while others are mobile. The mobile ones are the white blood corpuscles which move about in the lymph passages of the stroma. They increase in any irritation of the cornea.

4. *Descemet's Membrane*. This is a tough homogeneous hyaloid membrane back of the stroma. When the stroma is diseased and breaks down Descemet's membrane may be sufficient to prevent a puncture of the cornea.

5. The *Endothelial layer* is a single layer of flattened cells which coat the posterior surface of Descemet's membrane.

The margin of the cornea is in relation with three membranes, the conjunctiva, the sclera and the uvea (iris and ciliary body). In a disease of the cornea a conjunctivitis, an iritis or a cyclitis is easily started.

The cornea contains no vessels. It is nourished by imbibition. At the limbus there is a rich network of marginal loops supplied by the anterior ciliary vessels. From these loops the blood plasma passes into the stroma of the cornea.

The nerves of the cornea come from the ciliary nerves and the nerves of the bulbar conjunctiva. These are from the Trigeminus and the sympathetic. The nerves extend numerously in the stroma, passing forward through Bowman's membrane into the epithelial layer. This makes the cornea very sensitive to the touch.

Examination of the Cornea

Note the size and form. Both may be modified by morbid processes. Note the surface with regard to curvature, evenness and smoothness. In keratoconus the curvature is greatly increased. Noting the reflex images in the cornea and comparing these with those of a normal cornea will show any variation in curvature. Also any unevenness of the surface may be noted by the irregularity or distortion of the images. Uneven spots on the cornea may be depressions or elevations from loss of substance; wrinkles or collapse from lowered tension.

If the smoothness or polish of the cornea is lost it looks like glass that has been breathed upon or greased. It is lusterless and dull.

Note also the transparency of the cornea and determine the form, extent and density of the opacity; whether it is diffuse or in spots; in the deep or superficial layers. A magnifying glass should be used in the study

of opacities. According to the density of the opacity of the cornea it is known as a nebula or a nebulous opacity, a macula or a leucoma. The nebula is the least noticeable and the leucoma is the densest opacity. A leucoma is a condition of complete opacity. The cornea looks white.

Defects in the corneal epithelium may be made to show clearly by the use of a 2 per cent. solution of fluorescein, which stains them green.

Note the sensitiveness of the cornea by touching it with the end of a thread, a little cotton or a shred of paper. The sensitiveness is diminished or lost in glaucoma and some other diseases.

(Continued next month)

535 MAJESTIC BUILDING.

CORRESPONDENCE

NOTICE FOR REUNIONS

All reunions to be held during the meetings of the American Osteopathic Association in August should be reported to the undersigned chairman. This applies to reunions of clubs, fraternities, sororities, classes, etc. Plans may be made for breakfasts, luncheons or dinners at the Deshler Hotel and reservations and dates should be made early. Officers having these meetings in charge will confer a great favor by corresponding with me at once.

KATHARINE MCL. SCOTT, D.O.,
Chairman Reunions Committee.
1ST NATIONAL BANK BLDG., Columbus, O.

APPEAL FROM COMMITTEE ON NATIONAL AFFAIRS

Will all osteopathic physicians who wish to be organized in such manner as to be able to fill any patriotic obligation, please send names, addresses and the phase of work for which they are best equipped, whether it be surgery, neuropathology, laboratory, X-ray, eye, ear, nose and throat, anaesthesia or sanitation.

Men who have spent years in preparing themselves for life work should be given an opportunity to serve their country in a position of maximum efficiency, and it is the earnest desire of the Committee on National Affairs to have at hand a complete survey of those who are willing to assume their shares of our national responsibility.

W. CURTIS BRIGHAM, D.O.
801 FERGUSON BLDG., Los Angeles, Calif.

"CHIRO" CONVICTIONS IN GEORGIA

One W. P. Ausbrooks, a "chiropractor" of Savannah, was found guilty recentlly in the city court and fined $100 or thirty days in jail. It was a test case to ascertain whether "chiropractors" should come under the statute regulating the practice of osteopathy. The defendant was represented, in addition to local counsel, by Thomas Morris, of the firm of Morris and Hartwell, La Crosse, Wis., national counsel for the "chiros," who maintained that "chiropractic" could not be regulated under the statute regulating osteopathy and maintained that the law was unconstitutional. The court held that the statute was constitutional and suggested that the defendant apply for a license through the regular channels.

Last year the legislature passed an amendment to the law regulating the practice of medicine which requires all non-drug practitioners, by whatever name, to appear before our osteopathic board for examination, the law naming the subjects that they are to be examined in. Several in this State, the defendant among the number, gave no heed to this enactment and prosecutions were started to defend the law, this being one of the number. Notice was given of appeal, but as to whether the case will go to the Supreme Court I do not know. At any rate we are determined to defend this law.

M. C. HARDIN, D.O.
ATLANTA, Ga.

STATE AND LOCAL SOCIETIES

CALIFORNIA: The annual meeting of the California Association will be held in Los Angeles, June 7, 8 and 9. W. Banks Meacham, President of the A. O. A., will be the guest, and will speak before several sessions of the meeting. A most excellent program has been arranged, and the college has provided for the holding of a week of post-graduate study immediately following the convention.

COLORADO: The State Association will hold a special meeting at Denver, June 1. W. B. Meacham, president of the A. O. A., will be the guest at afternoon and evening session.

ILLINOIS: The eighteenth annual meeting of the Illinois Association will be held in Galesburg, May 24, 25 and 26. The high standard set by this organization for its recent meetings will be maintained at the coming sessions. An attractive booklet of thirty-two pages, giving program in detail, history of the State Association, present

officers, State districts, etc., has been issued. It may be noted that of the eleven presidents who have served the association in the past seventeen years, three, Drs. Taylor of Peoria, Melvin of Chicago, and Thawley of Peoria, have died.

The meeting will open in the Elks' Club of Galesburg at 3 p. m., May 24. Fanny E. Carpenter of Chicago will give a "Message to Mothers," to which all mothers are invited, and especially all women physicians are urged to be present. At 8 p. m. an informal reception with music and dancing will be held.

At 9 a. m., May 25, the meeting will be formally called to order. The address of welcome will be given by the Mayor of the city, and the response by Dr. Pauline R. Mantle of Springfield. "History of the State Association" will be given by J. H. Sullivan of Chicago, and the presidential address by Canada Wendell of Peoria. This will be followed by a short business session, after which Prof. M. A. Lane of Kirksville will give a lecture on "Advancement of Medicine—Osteopathic and Other."

At the afternoon session J. A. Overton of Tuscola will discuss "Osteopathy and Acute Disease," and will conduct a Question Box at the close of the lecture. A symposium on osteopathic technique will follow: "Cervical," F. A. Parker, Champaign; "Dorsal and Ribs," H. H. Fryette, Chicago; "Lumbar," Chester Morris, Chicago; "Pelvic," E. L. Longpre, Kankakee.

At 8 p. m. the annual banquet will be held, when W. Banks Meacham, president of the A. O. A., will discuss "Osteopathy, the Modern Therapy," and Hon. P. S. Patterson of Chicago, the attorney of the association, will make an address. Members are urged to reserve tickets in advance of the meeting. Tickets $1.50 each.

At the third day session the business meeting will begin at 8.30 a. m. This will be followed by a lecture, "Concussion of the Seventh Cervical Vertebra—Its Effect Upon the Heart," H. M. Stoel, Duluth, Minn. Afternoon session, "Differential Diagnosis of Gastric Ulceration," J. B. Littlejohn, Chicago; "Physical Examination and Diagnosis in Relation to the Treatment of Mental Diseases," A. G. Hildreth, superintendent Still-Hildreth Osteopathic Sanitarium, Macon, Mo.

Dr. Ada H. Chapman of Galesburg, in charge of the Pediatrics Section, will conduct sessions from 10 a. m. to 5 p. m., Friday. A part of the program will be a better babies' conference. Babies from six months to five years of age will be given the tests and scored on a thorough osteopathic examination.

Another feature of interest will be "Health Talks" on Friday at 11 a. m., before the Lombard College student body by Dr. G. R. Boyer of Peoria; the Knox College student body, Dr. W. Burr Allen, Chicago; the High School student body, Dr. Georgia Carter of Springfield.

THE CHICAGO ASSOCIATION held its monthly meeting April 5, with C. B. Atzen of Omaha as the speaker of the evening. He gave an able discourse on "Organic Adaptation." There was a large attendance and universal expressions of appreciation of the lecture were heard.—S. V. ROBUCK, D. O., *Sec.*

IOWA: The nineteenth annual meeting of the Iowa Association will be held at Hotel Chamberlain, Des Moines, May 15, 16 and 17. An excellent program has been arranged. The first day will be devoted exclusively to a surgical clinic by S. L. Taylor, president of the Still College and Hospital. The clinic will be held in the Central Hospital. Other sessions at the hotel as above.—T. B. LARRABEE, D. O., *Sec.*

KENTUCKY: The annual meeting of the Kentucky Association will be held in Louisville, May 11. This being the time of the annual races the best possible railroad rates will be in effect. An attractive program has been arranged and the entire profession in this and near-by States is invited. Dr. W. Banks Meacham, Asheville, N. C., president of the A. O. A., is expected to be present as the guest of honor.

MASSACHUSETTS: The Boston National Osteopathic Convention Association has been organized, with Francis A. Cave as president and Francis K. Byrkit as secretary. The object of the organization is to arouse the profession in Boston, Massachusetts, and New England toward securing the 1918 meeting of the A. O. A. for Boston.

MINNESOTA: The semi-annual meeting of the Southern Minnesota Association will be held in the public library, Winona, Minn., June 9. Program and details will be printed in the next issue.

MISSOURI: The annual meeting of the Missouri-Kansas Association will be held in Kansas City, May 9, 10 and 11. An elaborate program, devoted almost exclusively to acute practice, including nose and throat surgery, will be presented. Important business sessions of both State organizations will be held and a full attendance of the membership is requested.

MONTANA: W. C. Dawes of Bozeman, the efficient secretary of the State Association, was recently reappointed to the Board of Osteopathic Examiners by Gov. Stewart. Dr. Dawes has already served two terms of four years each, the new appointment also being for a four-year period.

NEW ENGLAND: This association held another most successful meeting at Hartford, Conn., April 6 and 7. The following officers were elected: President, C. Glenn Wheeler, Brattleboro, Vt.; vice-presidents, Florence A. Covey, Portland, Me.; C. E. Farnum, Newport, R. I., and Sarah O. Emerson, Bristol, N. H.; secretary, Caroline I. Griffin, Hartford; treasurer, L. B. Triplett, Springfield, Mass. The program, as forecast in recent issues of the JOURNAL, was carried out. George M. Laughlin, of the Kirksville school, gave two most helpful addresses on "Diagnosis and Treatment of Appendicitis" and the "Treatment of Infantile Paralysis." The paper by E. Florence Gair of Brooklyn, reciting her treatment in 500 or more cases of this condition was one of the most instructive features of the meeting. "Neglected Diagnosis" by L. Mason Beeman of New York, and a demonstration of finger surgery in the naso-pharynx were most instructive.

Dr. Jennie A. Ryel in addition to a lecture on the "Needs and Opportunities of Public Edu-

cation" gave a lecture in the Hartford Chamber of Commerce to the Motherhood Club, the subject being "Hygienic Welfare of the Child." Considering the date, Saturday afternoon before Easter, the attendance was remarkably large and the keenest interest was manifested. L. Curtis Turner of the Massachusetts College gave an interesting and helpful discussion of "Surgery in Gynecology."

The New England Society went on record as favoring Boston as the meeting place of the A. O. A. in 1918.

Dr. Helen G. Sheehan, who has served the organization most efficiently for several years as secretary, on her request was relieved and a hearty vote of thanks was extended to her by the Convention. Henry Carson, Jr., of Greewich, Conn., has been the efficient president of the organization the past year. C. M. Bush of Hartford was chairman of the program committee.

Portland, Me., was chosen as the meeting place for 1918.

NEW YORK: The all-star program of the mid-year meeting of the New York State Society to be held at Hotel Astor, New York, May 11 and 12, will soon be distributed to the profession throughout the East. This meeting represents the tenth anniversary of the signing of the Osteopathic Bill by Gov. Hughes. The best speakers obtainable are on the program and two full days and nights of instruction and entertainment have been provided.

The evening session of the first day will be given over to a public lecture by Percy H. Woodall of Birmingham, Ala., and the presentation of several cases treated in the New York clinic by Ethel Trever and L. Mason Beeman of New York.

Among the features of the program are: L. Von H. Gerdine, of Kirksville, on Osteopathic Treatment of Insane; F. C. Farmer, Chicago, Diagnosis and Osteopathic Treatment of Cardiac Diseases (with multiple Stethoscope; M. E. Clark, Indianapolis, Osteopathic Management of Obstetrical Cases; F. J. Stewart, Chicago, Diagnosis and Osteopathic Treatment of Skin Diseases; William Semple, Winter Hill, Mass., Osteopathic Care of Glenitourinary Cases; C. E. Fleck, New York, Nephritis.

The evening session of Saturday will be the annual banquet at which those prominent in securing the law, including several distinguished lay friends, will be present as speakers.

One of the features of the meeting will be a lecture and demonstration of his work by perhaps the foremost X-Ray authority in this country. There will also be shown many reels of motion pictures showing various surgical operations done under a magnifying camera and some of the most celebrated operations being done in the war zone. Saturday afternoon there will be a conference on the Forward Movement, at which it is hoped that the work started by the State Education Committee will greatly increase and take active form.

At this meeting will also be held a conference to discuss ways and means for the osteopathic profession to serve the men enlisted in the army and navy.

NEW YORK CITY OSTEOPATHIC SOCIETY held its April meeting at the Murray Hill Hotel, April 7, with George M. Laughlin, Kirksville, as the guest and principal speaker. Dr. Laughlin discussed "Diagnosis of Functional and Organic Diseases of the Stomach" in a most masterful address.

At the business session the committee on nominations presented the following: President, Geo. H. Merkley; secretary, H. Van A. Hillman, both for re-election; treasurer, George Starr, New York. Directors, Richard Wanless, G. R. Page and Cecil R. Rogers. Keeper of records, Elvire Tracy, and sergeant-at-arms, T. R. Thorburn.

OHIO: The Dayton District Society held its regular meeting in Dayton, April 12. The following officers were elected: President, E. E. Ruby, Troy; vice-president, H. T. Cooke, Dayton; secretary-treasurer, Paul A. Greathouse, Dayton (re-elected).—P. A. GREATHOUSE, D. O., *Sec.*

SOUTH CAROLINA: The annual meeting of the State Association will be held in Columbia, May 5, when M. C. Hardin of Atlanta will be the guest of honor. Other attractive features on the program have been arranged and a large attendance is anticipated.

TENNESSEE: The annual meeting of the Tennessee Association will be held in Memphis, May 18 and 19. W. Banks Meacham of Asheville will be the guest of honor and address the meeting. Other features will be reported in the next issue of the JOURNAL.

MEMPHIS SOCIETY recently elected the following officers: President, H. C. Cupp; vice-president, H. J. Harrison; secretary, C. L. Baker; treasurer, H. F. Butin. The society is to act as host for the State Association, and one of the largest meetings ever held in the State is anticipated.—C. L. BAKER, D. O., *Sec.*

TEXAS: The annual meeting of the Texas Association, notice of which was given in recent issues of the JOURNAL, will be held at Houston, May 5 and 6. Some of the best known speakers and practicians with the widest experience in the profession are on the program, prepared by T. L. Ray, Fort Worth, as chairman.

THE NORTHEAST TEXAS ASSOCIATION at its annual meeting on March 10 elected the following officers: President, J. F. Clarke, Greenville; vice-president, E. Poulter, Dallas; secretary, C. N. Terrell, Fort Worth; treasurer, G. W. Zimmerman, Dallas.

THE SAN ANTONIO SOCIETY held its annual meeting April 5. Paul M. Peck was elected president, Lester Morris vice-president, and Pauline J. Deitrich, secretary-treasurer. The business session was followed by a general discussion of topics of professional interest.

UTAH: The Utah Association will hold a special meeting, June 4, in Salt Lake City, when W. Banks Meacham, president of the A. O. A., will be the guest. An afternoon session for the profession is contemplated, and an evening session to which the public is invited.

VIRGINIA: The semi-annual meeting of the Virginia Society was held in Richmond, April 14, George E. Fout of Richmond, vice-president, presiding. Three interesting sessions were held and a luncheon between the morning and afternoon

sessions, at which were present many of the wives and invited guests of the members.

One of the foremost subjects of discussion was that of the osteopaths and the war, the keenest interest being manifested and the hope expressed that the War Department might find some way in which to give the men the advantage of osteopathic treatment. C. K. Garrett of Lynchburg gave an address, "Osteopathic Fundamentals and Essentials of Success." Charles Carter, Danville, discussed the "Relative Viewpoint of Physician and Patient." E. H. Shackleford of Richmond conducted a helpful clinic, presenting two children, the victims of infantile paralysis, which had made splendid progress, and a third, boy of 11, a case of arrested physical and mental development, which had made excellent progress. S. H. Bright of Norfolk discussed "Ductless Glands" in a most interesting manner.

WASHINGTON: The King County Society held a recent meeting, at which J. L. McGrue discussed the subject "Osteopathic Treatment in Diseases of Children." Plans for the re-establishment of the free clinic were discussed.—W. E. WALDO, D. O., *Sec.*

NOTES AND PERSONALS

Opportunity Through First Aid Work: W. Curtis Brigham of the A. O. A. Committee on National Affairs has some practical ideas of the opportunities opened up to osteopathic physicians through doing first aid work. He suggests that the women osteopaths throughout the United States take up the proposition definitely of rendering first aid work; that they go into women's clubs, Sunday-school classes, large organizations, and patriotically devote two or three hours a week for a few months each year toward giving a general outline of first aid work as laid down in the first aid book of the American Red Cross Association. This is a splendid work, and whoever does it faithfully will have the satisfaction of knowing that she is rendering most excellent service, which will result in bringing comfort to many, and perhaps the saving of lives.

While the Red Cross at the present time does not recognize osteopath physicians it is possible that all officials in the organization are not of the same mind with regard to admitting osteopaths that the head of the organization at the present time is. Besides, this head will not be in charge always, and if our women have done faithful work independent of this organization because they could not enter it they are greatly increasing the chances of a final recognition and acceptance of their services. No medical organization in the country is making anything like a determined effort to render this service to the laymen surrounding them. The opportunity is a splendid one, which should be commended heartily to the women in the profession. Those who wish further information might communiciate with Dr. W. Curtis Brigham, Ferguson Building, Los Angeles, Cal.

Osteopathy Among the Vocations: Many high school catalogs carry a list of vocations open to high school graduates, giving the special preliminary training necessary to the entrance upon each of them. Some of them include osteopathy. Many others of them would include osteopathy as a desirable vocation if it were called to the attention of the school authorities. In other instances it may require a determined effort in order to secure its listing, but at any rate, it is worth the effort. It not only will aid in directing the attention of the graduates to osteopathy as a profession, and thus aid the school attendance, but it dignifies the practice and presents it to many families in the community where the catalog is distributed.

Every osteopathic physician is urged to examine the catalog of his high school for last year, and at once make the effort to secure the listing of osteopathy among the vocations if the catalog carries such a list, and if osteopathy is not already listed.

In this connection the 1917 pamphlet for distribution to high school juniors and seniors is ready and the necessary quantity to serve the high schools will be sent to any member on his request. The osteopathic physician distributes them to the schools in the manner that he thinks best. The A. O. A. will send them in bulk and prepay the charges. If envelopes are wanted enclose stamps at the rate of 50c. per 100.

Important War Conference: As announced elsewhere, an important conference of those who are interested in devising and developing a plan whereby osteopathic physicians may be of service to the country through treating the enlisted men in the army and navy will be held at Hotel Astor, May 11 and 12, in connection with the New York State meeting. It is particularly urged that those who have made a study of the matter and those who have had experience in the medical service of army or navy attend this conference. Following this it is believed that a definite plan can be presented which the Government may be able to accept.

Conditions in England: That conditions affecting the practice of osteopathy where the government is concerned are not very favorable, are shown by the following letter recently printed in the *Evening Standard* of London from Dr. Foote:

"In reply to the letter regarding manipulative surgery that 'A. D. V.' wrote for your issue of the 19th, I wish to discuss 'qualification.'

"There are in the British Isles some forty 'qualified' practitioners of manipulative surgery. Their qualification consists in the training represented by the degree, 'Doctor of Osteopathy.' The course of study required to obtain this degree (an American degree) is identical with the medical course in every respect but

one, and that is that the theory and practice of manipulative methods are taught in place of the theory and practice of medical treatment.

"We are qualified to practice our profession, and should no more be compelled to obtain a medical degree than should a dentist.

"The matter resolves itself, then, into this situation: We are refused permission to aid his Majesty's wounded because our degree is foreign and not British, although some of us are British subjects.

"HARVEY R. FOOTE, D.O.
"HAREWOOD HOUSE, Hanover Square, W. 1."

Mr. Creel Honored: Mr. George Creel, one of the best known writers of the day, has recently been appointed by President Wilson as Chairman of the Committee on Public Information as to war matters, the other members of this committee being Secretary of State Lansing, Secretary of War Baker and Secretary of the Navy Daniels. Mr. Creel's appointment to such a position as this indicates his standing.

About two years ago he wrote as a part of the work on reform of public abuses which he was doing, a series of articles for Harper's Weekly. All of these articles are incorporated in a pamphlet published by the Electric Press, 18 Jay street, New York City, which pamphlets can be had for 5c. each in any quantities. Each pamphlet also contains a copy of a correspondence diploma issued by Palmer, and a sworn statement from the man to whom this diploma was issued stating that it was obtained without attendance at the school.

Several thousands of the Creel article pamphlets have been sold. This is certainly material which shows up the true nature of the "chiropractic" propaganda. The articles appeared in Harper's Weekly for April 3d, 10th and 24th, 1915, and are headed, "Mail Order Miracle Men," "Making Doctors While You Wait," and "Easy Money Doctors."

"Chiro" to be Arrested in Missouri: According to the Joplin (Mo.) Globe the prosecuting attorney says that he will file complaint against one W. Dean Smith, a "chiro" for the death of a child of one year with tuberculosis which had been under the "chiro's" treatment. Post mortem of the baby's body showed that it had died of tuberculosis. The "chiro" had presented a certificate of death which did not state the cause. It is stated that other "chiros" will have charges preferred against them for advertising to practice which is contrary to the Missouri law when they are unable to obtain a license.

Brief Course in Osteopathic Technique: The "Medical Summary," edited by R. H. Andrews, M.D., Philadelphia, sells for ten cents per copy. Its February issue gives a two column discussion of treatment of backaches. The first paragraph in the article is really enlightening. It states that the treatment of pain in the back is a source of great annoyance to physicians because patients come for relief and drugs fail to give it. Large dose of salicylate, acetanilid and other sedatives only temporarily check the condition and these patients then slip away to the osteopaths, etc. The interesting point is that people with indefinite pains, in most cases caused by a definite and specific condition, have to put up with drugs of this character when they visit the M.D.

The editor then proceeds to give his readers a ten-cent post graduate course in how to treat these conditions. He describes technique of osteopaths and of other systems and advises his readers that with practice their technique will improve. No doubt this will be true for a man or woman who has spent a number of years in college to acquire the fundamentals necessary to give this technique properly, and although he may have practiced it continuously for fifteen or twenty years he sees his technique improving day by day. So the medical man who starts out with this dime's worth of information has a long road ahead of him before he fetches up at the goal of efficiency. Still, he may beat drugs at the start. However, ten cents' worth of therapeutic knowledge may prove a dangerous thing.

To Raise Dental Standards: It is announced that Columbia University, New York City, has perfected its plans to raise dental education to a six years' course of study. The University will organize a dental school, which will not only fit students for practitioners but will offer advanced training to practitioners and instruct women as clinical nurses and assistants. The present plan of this college is to require two years of college training in addition to the High School work, two years in general medicine which is to be followed by the work in dentistry proper.

An address by Dr. W. A. Price, President of the National Dental Association, elaborates on the recent advances in oral surgery. One of the most important of these, he stated, was the discovery that the cause of much rheumatism and neurities existed in the mouth and teeth. He said while they were not ready to state that the teeth are causing such diseases as cancer, paralysis, etc., it was suggestive that in removing the infected teeth the patients suffering from such conditions are greatly relieved and a culture made from the infected tooth of a person suffering from wry neck injected into rabbits produced wry necks in almost every case.

New A. O. A. Auxiliaries: In addition to the Auxiliaries in the American School, which was founded last June, and the Chicago College, mentioned in a recent number, a splendid organization is now in operation in the College of Osteopathic Physicians and Surgeons of Los Angeles, which has about 100 members. The officers of this organization are: President, Wm. Malin; vice-president, Joseph E. Watson; secretary, Mrs. Laura J. Miller; treasurer, Herbert A. Huntington. A good start has been made.

As the JOURNAL goes to press we learn that through the kindness of Dr. F. A. Cave an Auxiliary has been formed in the Massachusetts College. An organization is also being formed in the Des Moines-Still College. All should organize before the school year closes.

Journal Article Reproduced: The Newspaper Feature Service of New York, which serves a hundred or more of the largest papers of this country and Canada, furnished its clients with more than half a page article with title entirely across the page, reproducing the recent article of W. O. Galbreath, D.O., of Philadelphia, printed in a recent issue of this JOURNAL, to which it had added several illustrations. The JOURNAL was given credit for the text of the article and the article must have been read by several millions of people throughout the States and Canada.

Every month brings to the JOURNAL office clippings from dozens of newspapers which are using the editor's clipping sheet arranged from articles appearing in the JOURNAL and *Osteopathic Magazine.*

Misstatements Answered: "Practical Politics," of Boston, in a recent issue, stated that "osteopaths, 'chiropractors' and the like howl lustily at the suggestion that they be placed under the jurisdiction of the Board of Registration and Medicine." R. Kendrick Smith answered this at once in a most pointed letter to the editor showing that osteopaths not only take the same examination as medical people take before the Board of Registration, but that for years the osteopathic profession fought for the privilege of being examined by a regular constituted State authority and were kept from this through the efforts of the medical people.

Osteopathic Hospital for the Twin Cities: According to the St. Paul *Pioneer Press* the profession in Minneapolis and St. Paul have completed plans for an osteopathic hospital and sanitarium to be built close to the two cities. According to the above paper Drs. Arthur Allen and Arthur Becker and Leslie S. Keyes of Minneapolis and C. W. Young of St. Paul are organizing and promoting the plans. There seems no reason why, with so large a professional backing as this community has, they should not have a most excellent hospital.

Osteopath on Faculty: A recent bulletin of the Elizabeth Mather College for Women of Atlanta, Georgia, shows among the corps of instructors, Elizabeth L. Broach, D.O., of that city, as physical director. The college is one of the well known and best patronized institutions of the South and osteopathic physicians who have difficulty in securing osteopathic attention for their daughters or patients when sent to college might consider this college in placing them for the coming year.

Osteopaths Quoted: The Denver Chemical Company, manufacturers and distributors of Antiphlogistine, have recently put out a neatly printed and illustrated little pamphlet with quotations from osteopathic physicians recommending the use of this widely used poultice. Many well known physicians, as Geo. M. Laughlin, C. L. Parsons, W. W. Steele, T. L. Ray, D. S. Jackman, W. D. McNary, and many others are quoted. Besides, the booklet gives information as to the widely varied application of this well-known product. The pamphlet may be had on request of the Denver Chemical Co. of New York.

Tuberculosis National Association Meeting: The thirteenth annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held at the Hotel Sinton, Cincinnati, Ohio, May 9th, 10th and 11th. Registration will open at 2 P. M., Wednesday, May 9th. A meeting of the sociological section at 2.30 will be followed by meetings of the Executive Committee and Board of Directors. A general meeting will be held at 4.30 and a reception by the Cincinnati committee will take place at 10 P. M. Meetings of the clinical and sociological sections will be held Thursday morning, and of the pathological and sociological sections in the afternoon. A general meeting, with report of committees and election of directors will be held at 4.30 P. M., and a complimentary dinner by the Business Men's Club to out of town delegates will take place at 6. At 8 P. M. a mass meeting will be held under the auspices of the local committee of arrangements. Sectional meetings will be held on Friday morning and at 12.30 the National Conference of Tuberculosis Secretaries will be entertained at a meeting and outing at the Bamford Hills Camp where, under the auspices of the Cincinnati Anti-Tuberculosis League a dinner will be followed by outdoor sports, music and dancing.

Mr. Hadley with New Concern: M. L. Hadley, formerly vice-president and advertising manager of the Hygienic Health Food Company of Oakland, California, well known to many members of the osteopathic profession, has now taken over the management of a sanitary milk bottle plant.

As noted in a recent issue of the *Osteopathic Magazine* the single service milk container will eventually entirely displace glass bottles now in common use. So long as users of milk not only do not wash bottles when emptied, but in many instances use them for garbage and refuge generally, the difficulty of rendering them absolutely sterile thereafter will be appreciated, and consequently the profession and people generally who appreciate sanitation as a means of health will welcome this new enterprise which Mr. Hadley is promoting.

Personals: A. G. Hildreth, president of the Still-Hildreth Sanitarium at Macon, has recently returned to that institution after a ten days' trip in the South, which took him as far as New Orleans.

H. L. Pease, of Putnam, Conn., has notified the mayor of that city that he will give free osteopathic treatment to the National Guardsmen stationed there who might need his services. No doubt this is being done, or would gladly be done if accepted by the Army, by the profession generally where the men are stationed.

Samuel Denham Barnes, of Honolulu, spent the month of March visiting friends in Seattle and with his wife returned to the Islands after spending some time motoring with friends through California.

Frank W. Vaughan announces the removal of his offices from 369 Broadway to 243 School

Street, Winter Hill, Mass., where he is associated with William Semple. Dr. Vaughan's Boston office is at 359 Boylston Street.

Robt. H. Nichols, Boston, announces his special post-graduate course in diagnosis to continue through the month of September, 1917. The hours will be from 9.00 a. m. to 3.00 p. m., with an hour intermission daily, and the fee will be $50.

C. B. Atzen has associated his son, C. R. Atzen, M.D., D.O., with him in practice in the Omaha National Bank Building, Omaha, Nebraska. The latter has had excellent training, particularly in laboratory lines; he served several months on the staff of the A. T. Still Research Institute.

Clarence Vincent Kerr, of Cleveland, Ohio, accompanied by his wife and son, recently returned from a trip to California. He has since moved into beautiful offices in the Guardian Building and is now assisted by his nephew, Gilbert L. Johnson.

Charles E. Kalb and W. A. Diebold are now associated in practice with offices in the Reisch Building, Springfield, Illinois. Dr. Kalb was recently in the Ferguson Building and Dr. Diebold in Chicago, associated with the late Dr. R. F. Conner.

Charles C. Teall has recently returned to his practice at Fulton and Weedsport, N. Y., after spending the winter in West Indies and Florida.

Born: To Dr. and Mrs. Charles E. Kalb, Springfield, Ill., March 16, a daughter.

To Dr. and Mrs. L. H. Noordhoff, Oshosh, Wis., April 13, a son.

To Dr. and Mrs. F. B. F. Hardison, Charleston, S. C., April 13, a son.

To Dr. and Mrs. Francis J. Smith, 4523 Old York Road, Philadelphia, April 16, a son.

To Dr. and Mrs. H. A. Price, Alexandria, La., March 14, a son.

Died: At his home in Chicago, March 28th, Dr. Roswell F. Connor. Dr. Connor was one of the early graduates and had practiced in Chicago about eighteen years. He was a loyal osteopath and faithful to his professional obligations. He was useful, dependable and always identified with the organizations of his profession. Members of his immediate family who are practicing osteopathy are Drs. Mary H. Connor, Jessie Connor, Nellie Connor White, and they will have the sincere sympathy of a large part of the profession.

At his home in Brooklyn, March 22d, Dr. Geo. H. Wood. Dr. Wood had practiced in Greater New York for twelve or fifteen years, coming to the city from the West. He was a faithful and dependable member of the profession and could always be counted upon to do his share. His many excellent qualities had greatly endeared him to the profession among whom he was an active member.

At his home, Joplin, Missouri, March 27th, Mr. Hardin Cox, husband of Dr. Martha S. Cox, of that city, death following pneumonia with heart complications.

At her home, Ionia, Michigan, March 31st, following a stroke of apoplexy, Mrs. Henry Sprague, aged 69, mother of Dr. L. Verna Simmons, of Grand Rapids.

At Sunbury, Pa., April 10th, Mr. T. J. Vastine, father of Drs. H. M. Vastine, of Harrisburg, and H. J. Vastine, of Reading, Pa.

Death of Mr. Hetherington: Few laymen were better known to the osteopathic profession than Mr. R. F. Hetherington, manager of the Malted Milk Department of the Borden's Condensed Milk Company, and it will be with keen regret that his thousands of friends in the profession learn of his untimely death, which occurred early in March at a New York hospital, following an operation for gastro-intestinal trouble. Mr. Hetherington was a thorough believer in osteopathy and a thorough believer in the product which he sold, consequently it was his keen delight to visit the osteopathic conventions, and few of the larger meetings escaped him. Perhaps the last time he was away from home was to attend the annual meeting of the New York State Society. He will be greatly missed at these conventions by thousands of friends in the profession, who recognized his sterling qualities and his kindliness of heart and obliging disposition. His personal friends among the local osteopaths were represented by a delegation at his funeral and sent a floral piece.

He will be succeeded by his brother, Mr. J. H. Hetherington, who has been his assistant for many years.

Bound Copies of Journals: Two of the original members of the association who have been forced to give up practice offer their bound volumes of the JOURNAL for sale. These each have handsomely bound copies of the first five or six volumes now almost impossible to obtain, which many of the new members will prize highly. A note to the JOURNAL will put the inquirer into communication with the owners.

Position Wanted: By a man and wife, graduates of A. S. O., June, 1915, location in a small city, preferably in the Middle West. Best of references. Address P., care A. O. A. JOURNAL, Orange, N. J.

Wanted: Position as assistant or to take charge of practice for the summer. Graduate of 1898. Licensed in Iowa and Illionis. Now located in the South. Address O. Densmore, Fort Myers, Florida.

For Quick Sale: A practice established ten years in a growing city of 60,000 in Oklahoma. Has averaged over $6,000 a year before health broke down from overwork. Suitable for man and wife or one alone. Will sell reasonable. Do not write unless interested. Address S, care A. O. A., JOURNAL, Orange, N. J.

For Sale: Old established practice in Iowa's best city. For a good woman osteopath or man and wife. Will sell for cash at less than office equipment. Address A. B., care A. O. A. JOURNAL, Orange, N. J.

For Sale: Oxoyline apparatus, one-patient machine. In perfect condition. Cost $300. Sale price, $125. Address G., care A. O. A. JOURNAL, Orange, N. J.

APPLICATIONS FOR MEMBERSHIP

California

Campbell, C. A. (A), Reedley.

Connecticut

Nason, Geo. F. Jr. (A.), 576 Main St., Stamford.
Thornbury, H. A. (A), Sanford Bldg., Bridgeport.

Iowa

Smith, C. E. (D.M.S.), Sconberg-Kilgore Blk., Estherville.

Massachusetts

Reid, Eva Greene (A), Slater Bldg., Worcester.

Missouri

Servoss, Mary MacKenzie (A), Hopkins.

New Jersey

Gildemeyer, W. H. (A), 35 No. Grove St., East Orange.
Watters, Jerome M. (Ch.), 434 Summit Ave., Westfield.

Ohio

Johnson, Royal H. (A), Shaffmaster Bldg., Conneaut.

Pennsylvania

Worley, W. A. (A), 115 Penna. Ave., Greensburg.

CHANGES OF ADDRESS

Barber, Chas. W., from Flanders Bldg., to Land Title Bldg., Philadelphia, Pa.
Barnard, Minnie F., from Richmond, Ind., to 221 Washington Ave., Greenville, Ohio.
Beckwith, Hermon E., from Los Angeles to Glendora, Calif.
Caine, Allen B., from Iroquois Bldg., to Marion Nat'l Bank Bldg., Marion, Ind.
Chaplin, A. W., from Savannah to Williams Bldg., Thomasville, Ga.
Crampton, C. C., from 217 Court St. to 269 Court St., Kankakee, Ill.
Daniel, O. L., from Olds to Millicent, Alberta, Canada.
Day, Lawrence, E., from 359 Lincoln Ave. to 308 Avery Ave., Detroit, Mich.
Deeks, J. Harley, from Winnipeg, Man., to Dominion Bk. Bldg., Toronto, Ont.
Faddis, Council, from Dillon, Mont., to Marsh-Strong Bldg., to Los Angeles, Calif.
Faris, L. E., from Chemical Bldg. to Frisco Bldg., St. Louis, Mo.
Herman, J. C., from Daytona, Fla., to Magnetic Springs, Ohio (for summer).
Herrington, Ellen, from 117½ Dubuque St. to 2 East College St., Iowa City, Ia.
Johanson, Petrus E., from Evanston to 342 S. Front St., Rock Springs, Wyo.
Kerr, Clarence Vincent, from Lennox Bldg., to Guardian Bldg., Cleveland, Ohio.
Killoren, Frances E., from St. Louis to De Groff Bldg., Colorado Springs, Colo.
Lathrop, P. L., from Olathe, Kans., to Ponca City, Okla.
Long, Harold J., from Nicholas Bldg., to Spitzer Bldg., Toledo, Ohio.
McPherson, Geo. W., from 414 to 433 McKay St., Montreal, Can.
Manby, C. J., from Kirksville, Mo., to Citizens Savings Bank Bldg., Owosso, Mich.
Peterson, R. H., from Kirksville, Mo., to Graebner Bldg., Saginaw, W. S., Mich.
Raynor, Eugene E., from Dwight Bldg., to People's Nat. Bank Bldg., Jackson, Mich.
Robinson, L. A., from Ft. Pierce to Hippodrome Bldg., Miami, Fla.
Schmitt, Frederick L., from Chicago to New Ridge Bldg., Kansas City, Mich.
Shortridge, Rosetta, from Seattle to 434 Crescent St., Walla Walla, Wash.
Spies, L. E., from Kansas City to No. Bank & Trust Bldg., Seattle, Wash.
Stearns, Maus W., from 226 State St. to 5 South Church St., Schenectady, N. Y.
Stryker, Wm. R., from Butte to Livingston, Mont.
Tebeau, A. C., from Charlotte to Hendersonville, N. C.
Tinglev. E. C., from Los Angeles to 451 Worcester St., Pasadena, Calif.
Wells, H. E., from Chicago to 107 Jefferson St., Morris, Ill.

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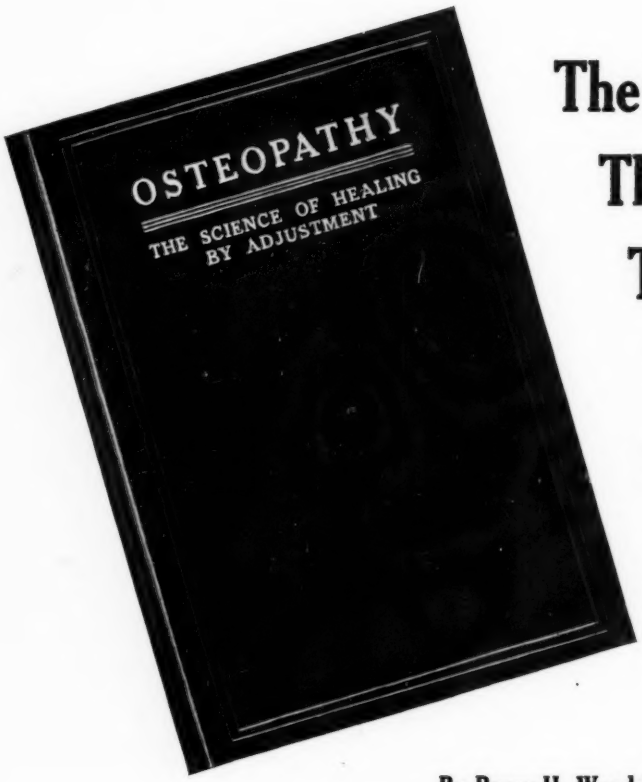

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